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CONCRETE LEARNING

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FOREWORD

The ideal American personality is a concrete force in the life of the nation. He expresses himself through the ballot, educates public opinion, initiates and enforces laws for human betterment.

Such a personality grows through expression. Repression and passivity are fatal to its development. If, therefore, we wish the youth in our schools to be builders as well as listeners and observers we must build the curriculum around life activities.

It is hoped that the illustrations in the pages that follow will help teachers to see more fully the possibilities of a school life that exemplifies these principles. These illustrations have been collected and compiled by the committee named below:

Miss Jennie Ackerman, Director of Training School, State Teachers College, Indiana; Miss Victoria Lyles, Director of Elementary Education, Pottsville; Mr. E. C. Noyes, Assistant Superintendent of Allegheny County Schools; Miss Clara Shryock, Assistant Superintendent of Cambria County Schools; Miss Mary Skillen, Supervisor of Elementary Schools, Lancaster; Miss Grace G. Swan, Director of Primary Instruction and Elementary Practice Teaching, Pittsburgh; Miss Helen Purcell, Director of Elementary and Kindergarten Education, Department of Public Instruction, Chairman.

JAMES N. RULE,
Superintendent of Public Instruction.

September 1, 1931.

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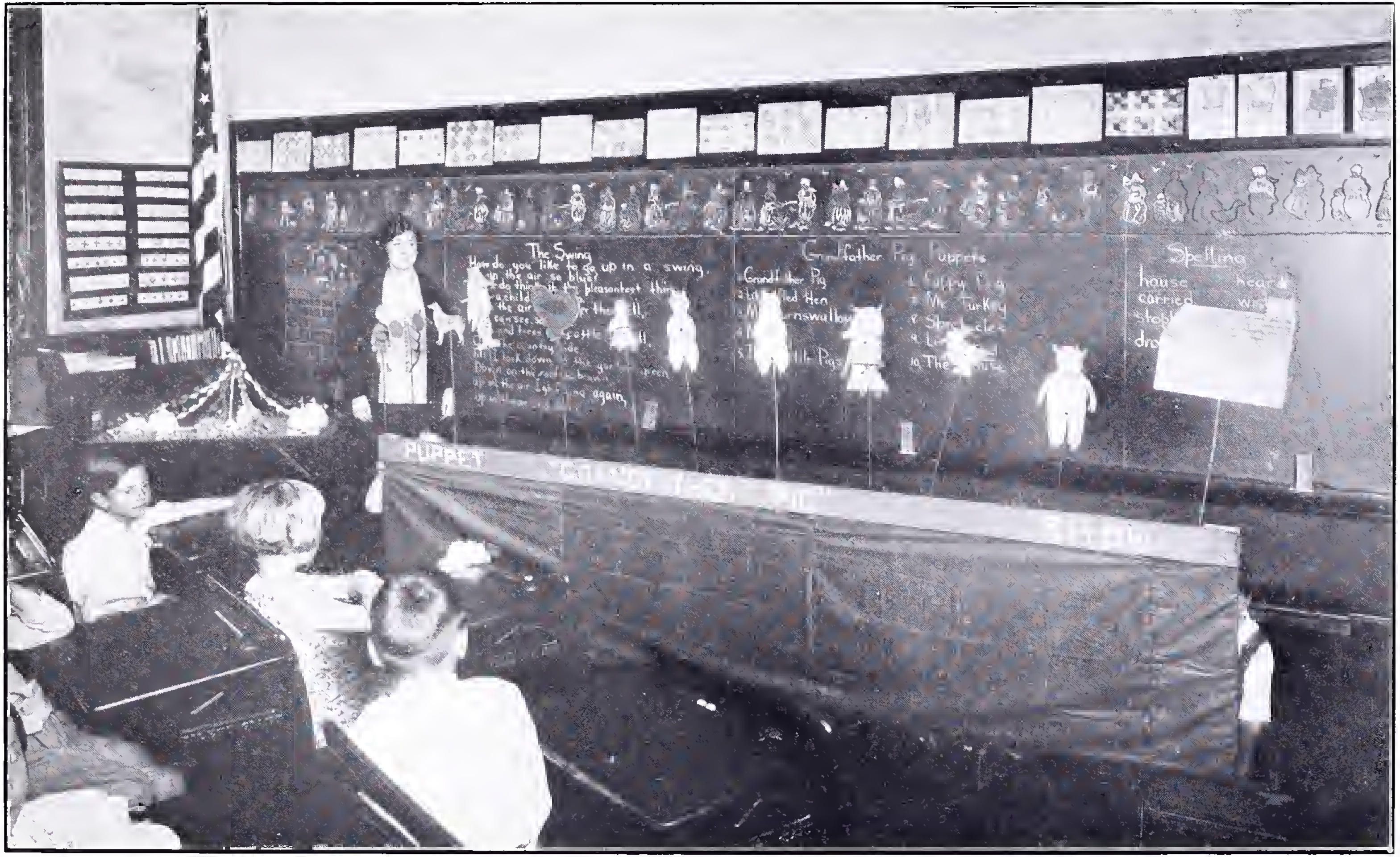


GRANDFATHER PIG AND HIS FRIENDS

CONCRETE LEARNING

I. READING AND ENGLISH

Jack and the Beanstalk.—The children of a third grade had read the story of Jack and the Beanstalk. They decided to give this story in the form of a puppet show. After considerable discussion acts and scenes were outlined. These were then assigned to different groups, each of which with the help of the teacher developed the part for which it was responsible. This was done in various ways. A considerable portion of the material was dictated to the teacher. Much of it was directly written by the pupils. The puppet stage and characters were made and manipulated by the pupils.

The following two scenes from Act I are typical of the material developed:

Act I

Scene I

In front of Jack's home.

(The curtain parts and discloses the front of Jack's home with Jack's mother looking out of the window. Bossy the cow is in the pasture back of the house. Jack is seen coming up the road.)

Jack (near the gate): Mother?

Mother (coming out of the house): Yes, Jack.

Jack: I'm hungry, mother.

Mother: Well, Jack, we have nothing to eat. We ate our last bit of bread yesterday, and I have nothing with which I can bake more. Even our garden does not seem to grow this year.

Jack: What are we going to do? I'm so hungry!

Mother: Perhaps there is something we can sell.

Bossy: Moo-Moo.

Mother: Oh, we will sell our last cow to get money for food.

Jack: But, mother, I don't like to sell Bossy.

Bossy: Moo-Moo.

Mother: We must. Take her to market and sell her.

Bossy: Moo-Moo.

Jack: When do you want me to go?

Mother: You may go now.

Jack: Come, Bossy! Come, Bossy!

Bossy: Moo-Moo.

Jack: Come, Bossy! Goodbye, mother.

Bossy: Moo-Moo.

(Jack goes slowly down the road with Bossy. Mother stands and waves good bye.)

Scene II

On the road to market.

(The curtain parts and discloses Jack and Bossy coming slowly down the road and Butcher Brown going up the road.)

Bossy: Moo-Moo.

Butcher Brown: Good morning, my boy. Where are you going with that cow?

Jack: I'm going to market to sell Bossy.

Butcher Brown: If you are going to sell Bossy, I'll buy her.

Bossy: Moo-Moo.

Jack: How much will you give me for her?

Butcher Brown: I'll give you this bag of very fine beans.

Bossy: Moo-Moo.

Jack: Beans! No, I must have money for Bossy.

Butcher Brown: But these are extra fine beans.

Fairy (floating in behind Jack): Take them, Jack. (floats out.)

Jack: Oh, very well.

The development of a puppet show.—The following report of the development of the story of Dr. Dolittle as a puppet show is certain to be helpful to the teacher contemplating a similar piece of work.

Motivation of puppet project:

1. Reading The Story of Dr. Dolittle by Hugh Lofting during literature period.
2. A puppet that represented Chee Chee was brought to the room and the children were granted the privilege of operating it.
3. Children asked to make puppets of other characters in Dr. Dolittle.

Planning of project:

1. Re-reading of chapters to find good parts of play.
2. Parts chosen by vote.
3. Teacher and children write first scene. (Pupils had just finished a dramatic reader so were familiar with arrangement of parts and scenes). The other scenes were written by two of the pupils.
4. Children choose characters.
    a. Qualifications for a character: Must be willing to make a puppet; must become familiar with play; must be able to manipulate a puppet.

Problems that arose:

1. How shall we make a puppet?
    a. Free discussion as to material best suited to the problem: unbleached muslin; old stockings; sateen; old woolen scraps.

b. How can we make the puppets appear real: Paint them in natural colors; use buttons and embroidery to give them more expression.

c. What is the best material for strings?

d. Children read articles in Child Life magazine to help solve their problems.

e. Information was also found in The Tony Sarg Marionette Book.

2. How can we operate our puppets so they will look real and not show the operator?

a. Make a theatre.

3. Committees are chosen by group to make frame; to make curtains and wings; to make scenery; to make furniture for scenes.

Learning Processes:

Working out of these plans involved the following learning processes:

1. Oral composition.
    a. Discussion and criticism of work done at free period.
    b. Criticisms and help must be clear and distinct so that the child may understand exactly what is meant.
    c. Talks were worked out to bridge the scenes.
2. Written composition.
    a. Writing a play.
    b. Record of how puppets were made for composition booklets.
    c. Story, Our Puppet Show.
    d. Programs for play.
    e. Writing invitations to party.
3. Arithmetic.
    a. Use of the yard, the foot and one-half inch measurement.
    b. Planning a frame to fit the desk.
    c. Measuring paper to cover sides and back of stage.
    d. Measuring curtains and making an allowance for a two-inch hem.
    e. Estimating length of cord to be twisted for curtain pulls.
4. Handwork.
    a. Woodwork: Sewing on a mark; driving nails; sand papering; making corners right angles; painting; care of paint brush; method of protecting floor from paint; articles made as chairs, bed, library table; problems involved in taking theatre apart after the show, such as removing the nails, saving straight ones; storing lumber for future use.
    b. Sewing: Making patterns for puppets; making puppets; turning hems on curtains; care and size of stitches; making suitable clothing for puppets; other articles made such as pillows, pillow slips, sheets, quilts and mattresses.

5. Dramatization of play by characters.
    a. Dramatization with puppets.

When planning for a party for the mothers the question arose, What shall we do for entertainment?

1. Puppet show suggested.
2. Drill on performance motivated by giving show for the first grade and student teachers.
3. Puppet show is given at party for mothers.

Note: All work was done at free period, 8:30 to 9:00 o'clock each morning, except written composition and dramatization. These were correlated with the work in English. The free period was under the direction of but one teacher.

Individualization in spelling.—Economical learning of spelling implies individualization in some form. In one class new words assigned for study were written by each pupil on small squares of cardboard furnished for the purpose. Each pupil kept these in a box marked "Words to Study." When he succeeded in writing a word correctly three times in his spelling lessons, he transferred the word to a box marked "Spelling Words to Review." Once a week the teacher tested each pupil on his review accumulation. Words that he failed to write correctly were transferred to his "Words to Study" box. In another class pupils wrote new spelling words in a notebook instead of on cards. Columns following the lists of words were labelled in such a way that the pupil was able to keep track of his progress from day to day.

Training the ear.—The pupils of a fifth grade class prepared notebooks in which errors in English speech, noted in conversation with other people, were jotted down with the correct form. For a considerable period, one recitation each week was given to a discussion of these notes. At this time, too, types of errors that occurred frequently were noted. During the following week exercises were practiced that were likely to help to correct these errors.

Practice in the organization of material.—While studying the United States and possessions, each pupil in a fourth grade collected pertinent pictures, post cards, newspaper clippings, and railroad folders. Maps, graphs, descriptions of interesting places and important industries and products relating to the term's work were also sought and saved. Eventually these accumulations became so ponderous and varied that it was difficult to locate specific material that might be needed. It was found, too, that some of the most attractive illustrations were becoming worn and torn from handling. Several members of the class suggested that this material be taken care of in some way so that it might be

MOTIVES FOR INDEPENDENT READING

more usable and less likely to wear out. The following activities grew out of this suggestion:

Each pupil placed all his material pertaining to one state, or one group of states together. Poor and irrelevant pictures and materials were withdrawn. Each pupil's collection was thus reduced to a workable basis. Following this, pictures and units of material that remained were mounted on sheets of 9 x 12 bogus paper.

The need for making each picture and piece of material specific was the next point considered. Pertinent descriptive material was printed beneath each picture and clippings were headed with a title, if this seemed advisable. Finally, each pupil put his pictures and other materials together under the headings originally agreed upon, and in such order as seemed to tell the various stories most clearly.

The preparation of a cover was the next point of emphasis. Each pupil brought in pieces of cardboard. From these, covers were cut in two pieces, each 13x10 inches. Each piece of cardboard was covered with colored construction paper, tan, gray, or blue. The inside of the cover was lined with a harmonizing shade of paper, allowing the edge of the outside cover to show one-fourth of an inch all the way around the inside of the cover.

Dramatization of A Reading from Homer.—The following is a summary by the teacher of some of the activities that grew out of an eighth grade study of the picture, A Reading from Homer by Alma Tadema.

Aim:

1. To create an interest in the life of the past and present in other lands.

2. To lead the children to realize that human nature was the same in ancient times as it is today.

Preparation:

1. Previous to this study pupils had read the following stories: The Golden Apple of Discord; Ulysses and the Bag of Winds; Other Wanderings of Ulysses; Achilles before Troy; The Poet Homer; The Wooden Horse; An Ancient City of Greece.

Development of activities:

1. Dramatization: Five pupils took the parts of the five characters in the picture. Each sought to make his or her conversations characteristic of the times and to lead naturally to the situation expressed in the picture. When the dramatization reached the point where the reading begins all settled into the positions shown and tried to express the emotions that the artist has depicted. Costumes were made of curtains, shawls, and sheets brought from home.

2. Correlated constructive work: Relief map including the Aegean Sea, plain of Troy, parts of the walls of Troy and the Wooden Horse. Various materials

may be used for the above such as clay, papier--mache and a dough made of three parts of salt to one of flour.

3. Subjects were chosen from a list organized by the class and essays were written both from the point of view of the citizen and the shepherd. One of these essays follows:

A Day in Ancient Greece

We came into the walled city of Athens through one of its many gateways. The first thing that attracted our attention was a high hill which our guide told us was the Acropolis. We asked him to take us to the top of the hill. He led us to a flight of marble steps, and when we got to the top we went through a beautiful gateway. The statues, altars, and temples there were more beautiful than anything we had ever dreamed of.

Looking down on the city we saw the one-story, flat-roofed houses. The guide said they were built so because of the frequency of earthquakes. We also noticed the narrow streets.

We then left the Acropolis for a journey through the city. We were surprised to see a statue on each side of every door. The guide told us that the Grecians believed these statues keep away evil spirits, and bring good luck. Then some one rapped on the inside of a door, and we learned that everyone in the street must move away from that door, because it is going to open. They must do this because the streets are so narrow.

We asked our guide if we might see the inside of a Grecian home. He led us through the narrow streets, and stopped in front of a big door. He knocked and when the servant opened the door he told us to be sure to put our right foot first for good luck. He then led us through a long narrow hall. On each side of this hall were rooms that had scarcely any furniture in them. This is because the people are seldom indoors except in time of a storm.

We passed into the open court. Here we saw walls, steps, chairs, benches, fountains, and statues made of marble. There were the most beautiful flowers. Sitting up on a high chair was a man holding a long papyrus roll. Soon other visitors gathered and we listened to a reading from Homer. We were sorry when he was done, but our guide then took us to their interesting library. It looked like a large honeycomb. In each hole was a papyrus roll.

The day was gone. We paid and thanked our guide and made our way to the ship. As long as we could see we looked back at this beautiful city.

A self-made library in the kindergarten.—This activity started with the children's interest in making books. The first ones were most simple, two or three pieces of paper folded over and fastened together. A number of children made books of this kind, some drawing pictures inside.

The kindergarten teacher saw that this was a particularly good interest to develop, so the next day she took all the children to a book store nearby. They saw the shelves and tables filled with many books. They looked at children's books, noticing the lovely pictures and the decorations on the covers. They also found books that had stories in them that they knew, and some of the same books that they had in their kindergarten.

The next few days more books were made and the children were much interested in bringing pictures from home which they cut out and pasted in them. Finally the children became interested in making books telling particular stories, such as pictures about the "Three Bears," or books about flowers, birds, and other topics. Also the idea of a good decoration for the cover gradually developed.

A few days later the children were taken to the public library in the district. Here they had a joyous time sitting around the tables and looking at the books. They were much interested in the many shelves where the books were kept, the lamps on the tables, and other decorations in the room. From that time the children concentrated on building a library at one end of the kindergarten room. Shelves were built of blocks and the books the children had made were arranged on these. Lamps of clay, painted in a decorative way, with decorated shades, were made for the tables. Bowls and vases and flowers to put in them were made and arranged, and placed in appealing positions. The end of the kindergarten room was soon transformed into an attractive library corner. Interest in this activity lasted for about six weeks and each of the fifty children in the kindergarten contributed to the project at some time.

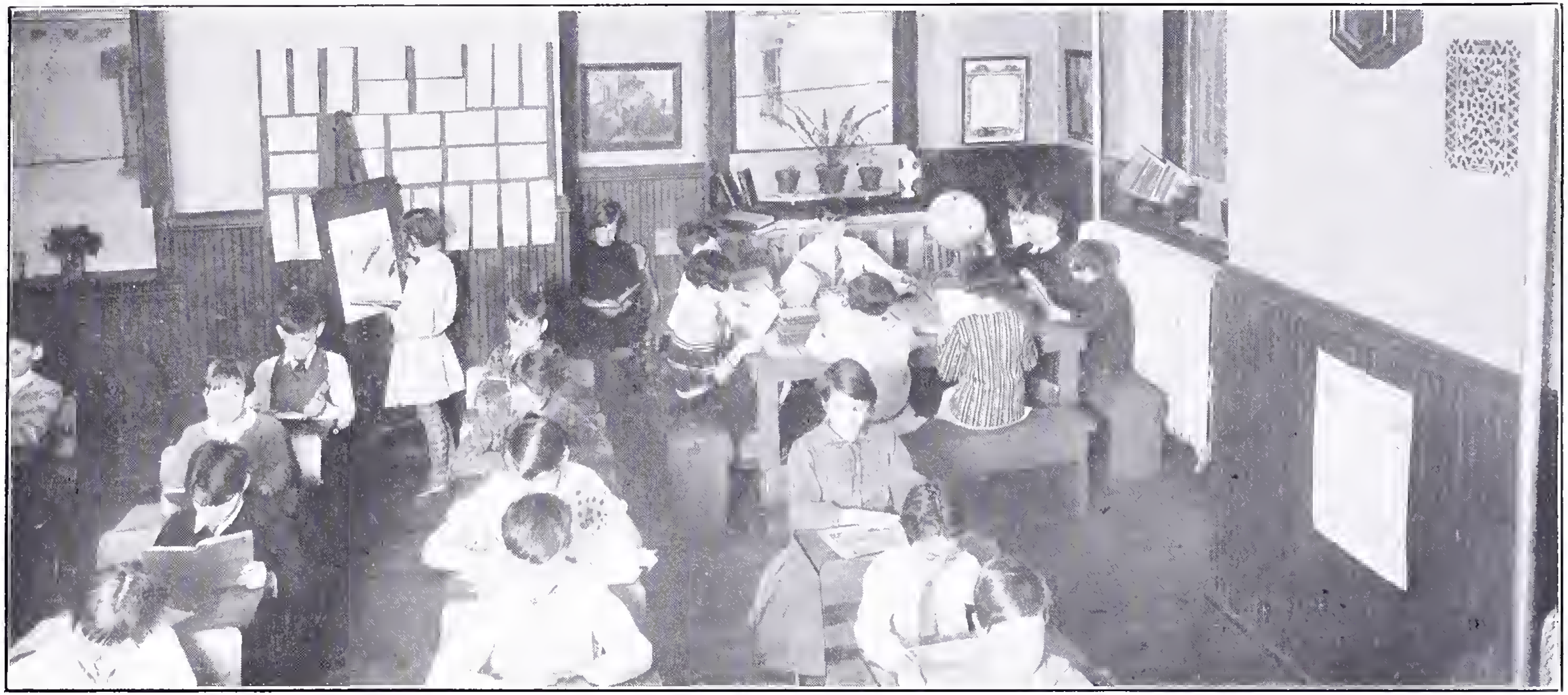
Organized use of library books.—A sixth grade constantly used the school library in connection with its work in the various subjects. In addition, a period was given each day for independent reading. For this period each pupil read in a book that he had chosen. When completed he wrote on a card provided for the purpose, the name of the book, the author, publisher, price at which it sold, and whether or not he liked the book with the reasons for this judgment. These cards were useful in many ways. Where there was a disagreement as to the merit of a book the teacher posted the cards and asked for other opinions. This stimulated a desire to read the book. Additional cards were posted as handed in.

A letter to the teacher.—The pupils in one class wrote letters to the teacher, telling their opinions of some of the books that they had read. The following letter is one of these.

Dear Miss———:

When I read Why the Chimes Rang I was ashamed I hadn't done it before. In it I learned to help others and not to think of myself. I liked it because I would like to be a little hero like the largest boy. It taught me not to think of a little pain. I hope my brother will get to read that book.

Your friend,



THIS CLASS MADE THE FURNITURE IN THEIR LIBRARY CORNER

A Book Week program.—With the approach of Book Week one school sought help from interested organizations and local possibilities were canvassed. The National Book Publishers, 25 West Thirty-third Street, New York City, sent posters, project suggestions, reading lists, guide outlines for reading, suggestions for using the guide outlines for reading, and general helps. The National Child Welfare Association, 70 Fifth Avenue, New York City, provided poster ideas. Local possibilities included interesting books in the home, books in the town library, books in school and home library, current magazines from homes and other sources, interesting materials in daily newspapers.

The activities of Book Week itself were varied and extended, differing much in different classes. Some activities noted follow:

1. At the beginning of the week each child was stimulated to feel his responsibility for interesting his classmates in good books which he had read and liked.

2. Points of interest were noted in commercial posters respecting books, such as slogans that attracted attention, pictures, attractive set-up.

3. Plans for original posters and original slogans were presented by pupils. These were discussed and suggestions made for their improvement. This exercise stimulated originality and helped to set up an appreciation of the principles of good advertising.

4. Posters for classroom and building exhibits were made and collected.

5. Talks to clasess were given on the city library by the city librarian, teachers, and other individuals or groups acquainted with its management and methods. These talks included information on the content of the city library, its support, location of different types of reading material and how to look up and secure material.

6. Book character charades were organized and given as an exercise.

7. Pupils wrote letters to friends in which an effort was made to stimulate them to read certain books that the writers enjoyed.

8. In a number of classrooms the teacher and pupils working together wrote original plays. These plays were given as assembly exercises.

9. The following topics were discussed: care of books; proper methods of handling books; mending books.

10. Each grade examined and discussed suitable magazines.

11. In several classrooms copies of well known magazines were obtained and placed on tables.

12. Children in the primary grades decided to buy one magazine each month. This was to be attempted on a basis of each child's effort to earn one cent for this purpose each month.

13. Advantages of reading good literature were much discussed and waste of time or actual harm consequent upon reading poor literature noted.

14. All teachers were provided with a list of sources for securing suggestions respecting good reading material. This included the Department of Public Instruction, Harrisburg, Pennsylvania; Carnegie Library, Pittsburgh, Pennsylvania; Child Welfare Association, 70 Fifth Avenue, New York City; National Association of Book Publishers, 25 West 33rd Street, New York City; Monthly lists published in Child Life Magazine, Rand McNally Company, 536 Clark Street, Chicago, Illinois; American Library Association, Chicago, Illinois; H. W. Wilson Company, 958 University Avenue, New York City.

15. Letters were written to mothers' groups or to individual mothers asking them to aid in securing more books and magazines for the school library.

16. Paragraphs were written summarizing the good pupils derived from book week. The best of these paragraphs were chosen and bound in booklet form.

Michael's Friends.—A fifth grade class presented a Book Week contribution to their friends in the form of a one-act play entitled Michael's Friends. The characters were selected from the books which the Mother's Club in the community presented to the school. As an expression of gratitude the play was dedicated to the Mother's Club.

The play opens with Michael and his Mother sitting before the fire. Michael's mother, who has been ill, remarks that when she first got sick Michael fretted and pouted about staying home in the evenings but that his attitudes have changed. Michael tells her that he is having a fine time since he has begun to read books. At this point there is a rap on the door and Robin Hood calls on them. This is followed by calls by several other literary characters.

A first grade bulletin board.—Several boards were nailed together. This was covered with burlap and a frame of narrow boards put around it. The bulletin board when finished was about thirty-six by thirty inches. It was hung in an accessible place. Wrapping paper was cut in strips three or four inches wide. On these strips were printed with black crayola expressions or bits of information. These were placed on the bulletin board and changed from day to day. They increased in difficulty as the children's vocabularies grew. At first only greetings or very short sentences appeared, as Good morning; Good afternoon; Tomorrow is bank day. Later sentences such as the following were used: Today is Monday; It is a windy day; This is John's birthday; We will have a party; Yesterday was John's birthday; We had real ice cream; John was six years old.

Supplementary reading activities.—A first grade teacher organized supplementary activities for each story in a set of readers that the children used. Spaces for drawings were provided. Copies were made for the class and given out as desired. Examples of these exercises follow:

Little Boy took Yellow Bird's nest.
He felt very sorry he took it.
He hid behind the bed and hung his head.
Draw little boy behind the bed.
Color little boy green.

I am a bird.
My name is Jill.
I like to fly away.
Draw me.
Color me black.

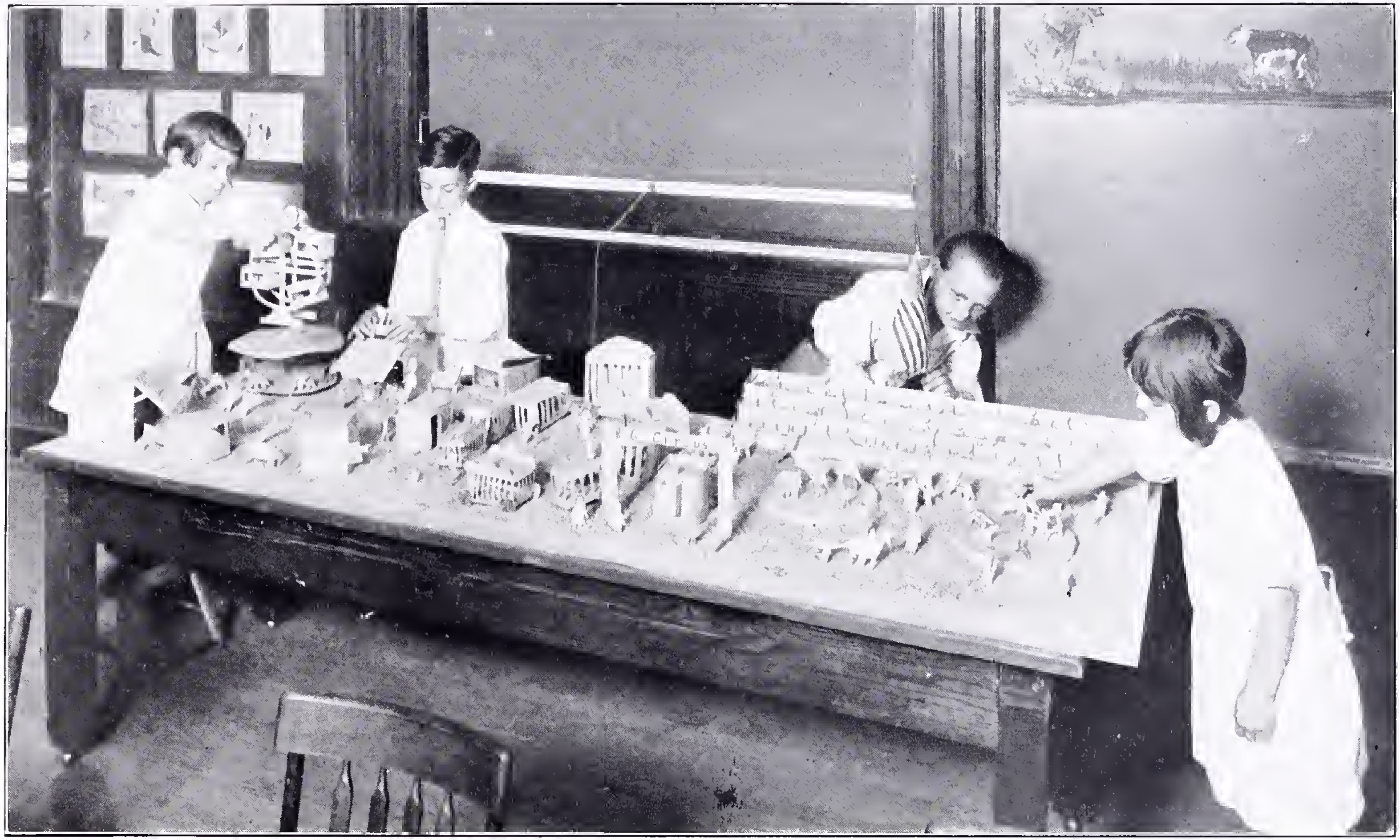
I am a little boy.
My name is Bobbie.
I have black shoes and stockings.
I like to play ball.
Draw me.
Color me.
Give me a ball.

The mouse says, "Squeak, squeak."
He lives in the cornfield in the summer.
Draw the mouse in the cornfield.
Color the mouse brown.

One day Yellow Bird could not find her beautiful nest.
She said, "Did you take my nest, Brown Dog"?
Brown Dog said: "I would never do such a thing."
Draw Brown Dog.
Color him.

Making characters in books real.—The children in a library reading class decided to dress dolls to represent favorite characters in the books they were reading. Each child bought or brought from home a small, inexpensive doll and the materials necessary to dress it to represent the character chosen. Each child also brought to school a needle and thread. Great care was taken to make the doll conform to the character as described in the book.

After the children had finished dressing their dolls they decided it would be more effective to have a background for each character. They found the description of the place where each character lived or where the character was during the part of the story emphasized. Each pupil removed the top from a pasteboard box and built up on three sides and the bottom of the box the backgrounds for the scene as described. For instance, the child who represented Seppi from The Swiss Twins had a picture of the Alps as a background, while the child who represented the Little Match Girl had as a background the side of a red



MUCH ORAL ENGLISH CENTERED AROUND THIS CIRCUS PROJECT brick house with the lights of a Christmas tree shining through a window. Finally the dolls representing these characters were placed in the boxes in appropriate positions.

Later a list of the books represented was made and given to a sixth grade. At a convenient time the children of the fourth grade displayed their characters to the sixth grade, and the sixth grade children checked on the list of the characters the ones they recognized. The characters that were represented were: Steve McLain from Ruddy Fox and Other Forest People; Heidi from Heidi; Little Match Girl from Good Stories for Great Holidays; Bamboo Princess from Japanese Fairy Tales; Penrod's mother from Penrod; Piccola from Good Stories for Great Holidays; Sleeping Beauty from Grimm's Fairy Tales; John from John of the Woods; Roland from The Story of Roland; Beggar from Old English Tales Retold; Little Red Riding Hood from Grimm's Fairy Tales; Ostrander from An Army Boy of the Sixties; Little Swiss Girl from The Swiss Twins.

An exercise in phonics.—A first grade class organized phonic posters in which each page contained pictures of articles beginning with the same sound. For example, in one pupil's booklet a "C" page contained pictures of a can, a cup, a cake, a cat and corn; an "Sh" page contained pictures of shoes and sheep; an "H" page, a house, a horse, and a hen

A correlated study of Hiawatha.—The following outline shows how a study of Hiawatha was made a background for work in several subjects of study.

Reading:

1. The names of the characters in the poem were placed upon the blackboard and the children pronounced the names. Their attention was also called to the pronouncing vocabulary in the back of the book.

2. Pupils read story for thought: Each day certain episodes were assigned for description and interpretation. At the close of the period the episodes read were discussed. When the poem had been read through, the main points were considered as a whole. In all of this only the principal points and beauties of the poem were emphasized.

Language:

1. The beauties of the poem were stressed and passages that appealed to the children memorized.

2. Portions of the poem were dramatized.

Nature Study:

1. Pupils examined and learned to recognize fir, pine, birch and cedar trees.

2. Pictures of these trees were gathered and made into a booklet.

Music:

1. Several songs with an Indian theme were learned.

Vitalized reading.—A first grade class reading stories of farm animals decided to make a sandtable farm showing these animals. The background for the farm was soon built. As a story was read of a farm animal a cut-out or a small toy animal was placed in an appropriate place on the farm. The completed farm was used as a background for practice in quick reading and proof of interpretation through flash cards containing directions, as, find two horses; point to the animal who gives us milk; how many chickens in the chicken yard; point to the bull.

A second grade diary.—For a week before the diaries were started the class spent a few minutes just before the close of school talking about the important things that had happened that day. Some of these happenings were written on the blackboard. Perhaps a new child had entered that day. Sometimes a pupil had been particularly commended for excellent work, or a pupil had told an especially interesting story. The class also talked of grown up people who write down each night in a book the things they have done that day. It was learned that such a book is called a diary.

The following week, each child was able to write a sentence or two, each day, telling of some experience. These pages were carefully kept and arranged in order. The class had made booklets in spelling and number work and it was suggested that these records could be kept in a booklet also. The next day each child brought a picture, cut from a magazine, of children doing things. Each pupil mounted his picture on a sheet of construction paper. This made an attractive front cover. The back of the booklet was another sheet of construction paper. The leaves were regular second grade penmanship paper.

Each day the teacher wrote on the blackboard the date and each child copied it at the top of a clean sheet. Below, two or three events of the day that the child thought important were written. At the beginning of the new year the children were given tiny individual calendars to paste in their diaries. They were accustomed to the succession of days in the month and months in the year and now the coming of the new year had its lesson. Hereafter they looked at their calendar and entered the date without further assistance.

The outcomes of the diaries were many. Among them should be mentioned the extension of the vocabularies of these children, the sense of time that was developed, and a consciousness of the past as made up of events.

Original Poems.—The following verse was written by a third grade.

The Wind

The wind is blowing very strong,
It blows the snow and dust along.
It blows them on the window pane.
My mother cleans them off again.

These are examples of the first efforts of a sixth grade class to write poetry:

The Lights

The day is dying,
The sun is going down,
Soon lights will be seen,
All through the town.

My Other Face

As I was walking by a brook,
I happened just by luck to look
In that tiny stream so clear;
I saw another face appear;
I knelt to see
The face that was the other me;
But when I tried to get that face
It always went some other place.

The Little Stream

A little stream ran merrily along,
Bubbling, running, and singing a song;
It looked so sparkling and so gay,
This little stream one sunny day.

But in winter, dark and drear,
This little stream was not so clear;
'Twas frozen over with thick ice,
But skating on it was very nice.

Kindness to animals.—The following is an example of letters written by a class who imagined themselves animals under conditions that not infrequently prevail:

Dear Peggy:

No doubt you are having a good time at your aunty's, but oh! how I wish you were home.

Yesterday, Dot and Bob took my three little children and after boxing their ears, picked them up by their tails!

Today, they squeezed my youngest one until she cried.

When you were here you did not allow them to abuse my kittens. I hope your vacation will soon be over, and you will come here to take care of us all.

Your loving cat,

Nipper.

Conduct of a sick person.—A project in another school was centered about the problem "How a person should act when he is sick." It was decided that every person who is sick should try to do two things: (1) To get well as soon as possible; (2) To make the other people in the house as happy and comfortable as he can. Many subjects relating to these two topics were discussed, such as the need for taking medicine at once when it is brought, and the idea of courage and cowardice in illness. The children decided, for example, that the sick child who cried and whined was a coward, and that the sick child who kept cheerful and tried to cooperate with the doctor and the people who took care of him was a brave child.

Activities in English respecting this subject continued indefinitely, as whenever during the year a child in the class had a serious illness, the remainder of the class insisted upon knowing whether he or she had been brave or cowardly. In making their reports several children who had been ill insisted that they knew they recovered more rapidly because they took their medicine without protest and tried to be happy and make other people happy. In short, this topic was a never ending stimulation for oral expression.

Health and English.—A group of boys and girls in the seventh grade organized themselves as a city health club. Objectives of the group were two-fold: (1) To find what conditions, if any, existed in the town that were detrimental to health; (2) To find means through which such conditions might be improved. The club of eighteen people was divided into six groups of three each. Each group was assigned a definite area of the town to survey. Preliminary to starting on this survey points to be noticed were determined and a chart prepared upon which reports might be entered. The committees decided to place special emphasis on back yards whose conditions encouraged the breeding of flies and mosquitoes.

When the town had been surveyed from this point of view methods for removing undesirable conditions found were discussed. When the results of the survey were reported it was found that, as a whole, conditions in these respects were far from satisfactory. Methods for improving the town in these respects were discussed and things that the class might do to bring about improvement were listed.

Many activities grew out of this project. For example, each pupil wrote an article on conditions found with suggestions for improvement. The pupils chose the three best articles and sent one to each newspaper in the town. As a matter of information it may be stated that all three were accepted and published. Where conditions existed that made it clearly impossible for the person living on the property to remove unfortunate health conditions, committees of pupils did the necessary cleaning with the permission of the tenant.

The care of a baby.—Dolls which they made and cared for provided a first grade with many interesting topics for conversation and dictation. Each child set the age of the "baby" and assumed the responsibility of a mother or father toward a child. A proper program for each baby was worked out and written on the blackboard as, the hours the baby should sleep; the time at which baths and feeding should take place. Other topics considered included proper foods for the baby, suitable clothing, preparation for bedtime, why the baby should sleep without a light, and why babies should not be handled too much.

How to visit a baby was also discussed. For example, emphasis was placed upon the need for clean hands and clothing if the baby visited is to be touched. After the pupils had learned how to prepare for visiting a baby several mothers of children in the group who had babies in the home invited the group to visit the baby. On such occasions every pupil who planned to accept the invitation washed his hands thoroughly and made himself as clean as possible. Following these visits the class dictated a description of the preparation made for the visit and the main points noted with respect to the baby. The teacher wrote this upon the blackboard.

Another topic for conversation and dictation centered around the relation of fathers to the care of a baby. The boys in the class declared that their fathers helped to take care of the babies in their homes, and that fathers had "just as good a right" to take care of the baby as the mothers.

Young editors.—A class newspaper, in some form, is frequently made a background for English work. Examples of such work are given:

A first grade established a blackboard newspaper, "published" once each week. Each pupil regarded himself as a reporter and was constantly on the outlook for news. At the appointed time this news was dictated to the teacher who placed it upon the blackboard. A new baby, week end trips made by several children, a number of visits to families, and the passage of a dirigible were included in the items for one week.

As part of their English work a third grade prepared a weekly newspaper of one page. The teacher typed enough copies of this weekly for each one in the class. The discussions in class as to the material that should be included in this newspaper were undoubtedly far-reaching in their influences. "It will not be interesting to most people" was a common criticism on material presented. "It is not a nice joke;" "The boy who would do that is a bad boy," disposed of a

DRAMATIZATIONS OF HOME LIFE

good many jokes proposed. When a boy presented the following joke everyone thought it a good one and it was included:

Teacher: John, keep your marbles in your pocket.

John: I can't, there is a hole in it.

The following is a report by the teacher of typical points in a fourth grade newspaper project:

First the value of a newspaper and what it contains was discussed. In connection with this, several daily newspapers and semi-monthly high school papers were examined. The enthusiasm of the class was fired and the next step was naming the paper. "The Junior News" was finally selected from several names suggested by the class. Then the editor-in-chief and assistant editor, whose duties were to go over the materials contributed, were chosen by vote. One language period a week was devoted to writing specially for the paper, though compositions written at other times always had material for the newspaper in view.

The paper was divided into four parts: News Section; Editorial Section; Jokes; Stories and Poems. Sometimes a special piece of work was assigned to a certain pupil or group. Again the whole class worked on a certain section. Always there was much independent and unassigned effort. The editorial section was the only part that needed much explanation. An example of a so-called editorial follows:

> **Watch**
>
> We wish that all the boys and girls would keep their feet under their desks. Now that we have Safety First in our school, we must watch this. Some of the pupils might trip and get hurt.

The jokes were especially popular. They were all humorous incidents that actually occurred in the classroom as,

Teacher: Make a sentence containing the word "belong."

Salvator: Don't be long.

The Stories and Poems Section was the best part of the paper. The two poems that follow indicate what was done in this line. The first poem is an independent venture. A poem called My Twin was written by another child. The first verse was much better than the second verse. After the newspaper was completed a child who saw these verses thought that he could improve the second verse. This verse as given includes his "improvements."

My Dolly

My dolly's name is Betty,
She's very, very pretty,
She never frets or frowns all day,
Or never cries to have her way,
For she wouldn't get it anyway.

My Twin

I used to be so lonesome
  And sad as sad could be,
Because I had no sister
  To play with little me.

But oh, one day I found her,
  It surely was no sin;
For I'm never, never lonely,
  I play that I'm a twin.

At first all verses were written in sentences like prose with little or no rhyme. However, a period spent on the examination of poems by Stevenson, whose rhymes and rhythms are most obvious remedied that.

After the papers had been checked by the "editors," the teacher looked them over and returned those chosen for a detailed correction. The whole was then typed on a stencil and run through a mimeograph machine. The result was a four page paper printed monthly.

A school of six grades regularly published a newspaper. A sample issue includes a welcome to new pupils, cheering words to pupils who are absent because of illness, current events, and original prose and poetry. In addition, several of the grades in this school issued newspaper sheets of their own. One such newspaper was devoted to reviews of books written by the pupils. One of these reviews follows:

Smoky, by James.

Smoky is about a cowhorse and his master. Smoky was one of the best cowhorses in the country. He has many adventures with men and wild beasts. One day Smoky was stolen and was treated very cruelly by his new master. Years after when Smoky was an old horse, he was found by his old master.

A composition on the rat.—Each pupil in a class studying destructive animals wrote a short composition on the animal of his choice. The following is one of these compositions:

Destruction of Rats

Rats are very good at destroying property which is the same as eating large bags of silver.

Rats breed in filth and have about eight young at one time. Some raise as many as five families in one year. They carry disease germs and in a year destroy property valued at $190,000,000 in grain, eggs, poultry, fruit and vegetables.

The bite of the rat is very dangerous. One species of rat carries the germ that causes plague, a disease not common to the United States.

Rats feed on garbage and the like. We must destroy rats by destroying their food and by protecting their enemies. These are the cat, weasel, owl, dog and some birds of prey. Instead of killing these enemies we should have one or two in every home to keep rats and mice from our property.

Modern fables.—The following are examples of sixth grade attempts to write modern fables.

False Teeth.

Once there was a little boy who would not go to the dentist. His name was Jack. He would not go to the dentist even if his mother begged him to go.

One day his mother said, "Jack, you must go to the dentist."

Jack said, "I will not go. I do not have the toothache."

His mother replied, "Jack, you must go, because your teeth are decaying."

Jack cried and yelled, "I will not go!"

His mother did not remind him of the dentist any more, but when Jack was a man, he had to wear false teeth!

Moral: Go to the dentist.

The Chicken and the Automobile.

"Never fly across the road when cars are passing," said the mother hen to her chicks.

"No automobile is fast enough to hit me," said the chick, thinking that he could fly better and faster than others of his kind. Just then he walked into the road. A fast car came speeding by. Before the chick could lift his wings, he was hit.

"Ah, me," said the chick, as he lay dying, "I should never have disobeyed my mother."

The Aviator and His Instructor.

An aviator's instructor had told him never to do stunt flying while he was flying low, especially over a city.

One day the aviator went flying, and he thought, "Oh, I can fly low, and do stunt flying at the same time." He happened to be flying over a city. As he went up in a loop-the-loop, his motor stalled, and he went down backwards. His wing was knocked off on a church steeple, and he crashed.

As he lay dying, he said, "I wish I had listened to my instructor."

The Pilot and the Mechanic.

Once there was a pilot and a mechanic.

The pilot said, ''I must have a plane in five minutes.''

"It will take longer than that to tune one up," said the mechanic.

"I must have one in five minutes," replied the pilot.

"All right," said the mechanic.

After five minutes, the mechanic said, "The motor does not sound right. Just let me look at it, just for a few more minutes."

"I can't wait any longer," said the pilot, so he got into the cockpit and flew off. Soon the motor stalled, and the pilot tried to glide to safety between two rocky cliffs, but his undercarriage hit a large stone and he turned over and was crushed.

Moral: Pilots should listen to mechanics.

Lucy's Experience.

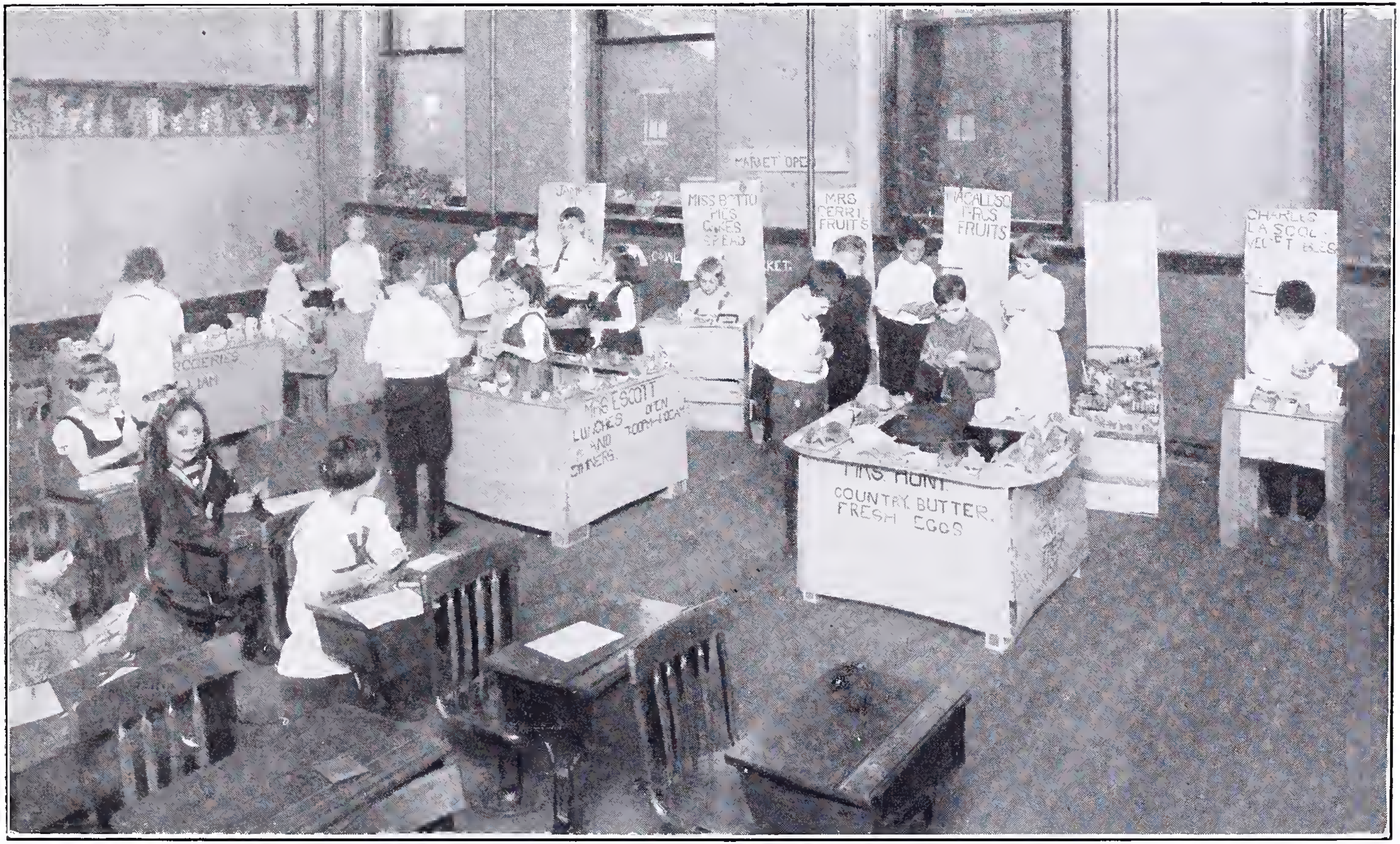
One day Lucy's mother said, "Lucy, will you go down town for some thread and machine needles? Put on your overshoes and rain clothes. You better take your umbrella for it looks dreary and might rain."

Lucy thought she did not need overshoes so she did not put them on. She went down town and got the needles and thread. On the way home it started to rain. It rained hard and she was soaked. When she got home, she sneezed, and sneezed, and sneezed.

Her mother said, "Lucy, you have a cold. You did not wear your overshoes when you went down town as I told you to do and you got your feet wet."

Lucy had her cold about a week when it got worse. Her mother took her to the doctor. He said she had sore throat, and a cough. She had to take castor oil and quinine. Her father swabbed her throat with iodine. Her parents were afraid she would get worse, so she had to stay in bed for three weeks.

When she went back to school she had lost her honor seat, and had to do twice as much home work to catch up to her class.



LEARNING THE ARITHMETIC OF BUYING AND SELLING

II. ARITHMETIC

Making both ends meet.—Each pupil in a seventh grade made floor plans of his home to a scale of one inch to eight feet. When completed, these plans were made a background for computing the cost of repairs and improvements that were being considered in several homes. For example, one family wished to paper the living room, but did not wish to spend more than thirty dollars. The paper that they wished to use, however, brought the cost considerably above this figure. Investigations by the class showed that if the family scraped the walls instead of having this piece of work done by the paper hanger, enough money could be saved to enable them to have the paper they wished. The three oldest children in the family decided that they could do this job. It might be added that they removed the paper from the walls in a very satisfactory manner.

Contemporary events as a background for arithmetic.—Teachers should constantly be on the lookout for important happenings that include number situations. Arithmetic is thus connected with contemporary life situations and, in addition, desirable interests may thus be developed. Examples of some such activities follow:

The pupils in a fifth grade were much interested in the flight of the Graf Zeppelin. They followed every detail by newspaper and radio. The teacher saw an opportunity to vitalize this interest still further. With the help of the class considerable arithmetical data were collected relating to the flight of the Graf Zeppelin and certain other epoch-making trips across the Atlantic. These data follow:

1. The first trans-Atlantic crossing was made in 1492.
2. The Graf Zeppelin made the first commercial air crossing in 1928.
3. Eighty-eight crossed in the caravel of Columbus; 60 in the Zeppelin.
4. Of the 20 passengers in the Graf Zeppelin, 18 paid a fare of $3,000 each.
5. The flight covered 6,500 miles and was made in 112 hours.
6. The total weight at the take-off was 121 tons; passengers, crew and baggage weighed 5 tons.
7. It required 69 days for Columbus to cross the Atlantic; 5 days for the Zeppelin; 4 days for the Mauretania.
8. It was estimated that the return trip would be 2,500 miles shorter than the western trip.
9. On the return trip 15 of the passengers paid a fare of $3,000 each.
10. The return trip was made in 69 hours and covered a distance of 4,003 miles.

When these data were completed, the pupils were encouraged to raise arithmetical questions that they would like answered respecting the crossing of the Atlantic by Columbus, by the Mauretania and the Graf Zeppelin. Finally they were asked to put their questions into a suitable form for arithmetical solution. When identical problems were eliminated, the following remained:

1. How many years elapsed between the trip of Columbus and that of the Zeppelin?

2. How much fare was collected by the Graf Zeppelin coming over? Returning? Total fares?

3. What was the average rate per hour of the Graf Zeppelin in flying westward?

4. What was the actual weight of the plane?

5. How much longer did it require the Graf Zeppelin to come over than to return?

6. What was the average rate per hour of flying eastward? On which trip did the Graf Zeppelin fly the faster?

7. How much shorter was the return trip? How does this compare with the estimated difference in the distance?

8. Compare the time required by Columbus with that required by the Zeppelin; the Mauretania.

9. Compare the time required by the Zeppelin with that required by the Mauretania.

10. How many days did the Graf Zeppelin require for return trip?

Another class made Byrd's expedition to the North Pole, and Lindbergh's flight from coast to coast a basis for similar arithmetical computations. Still other problems relating to contemporary events are based upon national expenditures, radio production and motor vehicle injuries. For example, it is estimated that in 1929 about 1,000,000 non-fatal motor vehicle injuries of some seriousness occurred in the United States. What is the total loss in income for the individuals injured if we allow an average loss of six days of unemployment at five dollars per day? Estimate other expenses that you think should be considered. What is your estimated total cost of these accidents?

Getting acquainted with numbers.—A first grade class could count to one hundred and wrote these numbers with fair efficiency. In their work in English these pupils had collected, mounted, and named a number of pictures. At this point the teacher transferred the interest in these pictures into number channels by raising the following question: "If these pictures were for sale how much would you pay for each one, no one to cost more than one hundred cents?"

The teacher then hung up a chart containing the numbers from one cent to one hundred cents, and each pupil wrote the name of the picture that he wished to purchase with the price offered. Later each pupil read the price he offered. Also pupils read the prices offered by other pupils for the same picture. In another exercise the teacher assigned a specific picture to each pupil and asked that each one prepare a price tag for the picture assigned to him. Still later each child used toy money which had been previously made to express the amount offered for a picture by another pupil.

The pupils found these exercises interesting and at their close almost every pupil in the class was able to read and write with ease the numbers from one to one hundred. In addition, their interest in the cost of things was whetted. For example, several pupils asked the clerks the prices of pictures that they saw in the stores. In short, the interest in the prices of pictures became so great that the teacher arranged with a local store to organize an exhibit for the class of twenty pictures at various prices within one dollar each. The whole class accompanied the teacher to this exhibit and read the prices with interest.

Application of percentage to a jewelry sale.—The following list of reductions appeared in a local paper:

Watches		Diamond Rings	
Regular Price	Now	Regular Price	Now
$800	$600	$1500	$1200
500	300	1000	800
300	250	800	600
250	125	500	400
150	100	300	250
100	75	200	150
75	60	100	75
50	35		
35	25		

The teacher of a sixth grade studying percentage provided each pupil with a copy of this list. The pupils used this list as a background for computing the percentage of reduction in each case given.

Individualization in arithmetic.—Individualization is essential to certain and economical learning of the addition, subtraction, multiplication and division tables. This is provided in numerous ways: Through cards on which the pupil notes the combination in which he has failed; notebooks in which each pupil keeps a record of his progress in each combination; a notebook in which the teacher keeps a record of each pupil's failures. The important thing is that work of this character is individualized. How it is done is a matter for each teacher to work out.

Self-testing.—In one room each pupil was supplied with a set of number cards, with a problem on one side and the answer on the other side. In using these cards the pupil jots down the answer to the problem on a piece of scratch paper and then turns over the card to see if he is right. On this basis he makes two piles of his cards. One pile he calls his "Know Cards" and the other pile he calls his "Don't Know Cards." He constantly tries to reduce the number of his "Don't Know Cards." The teacher frequently tests pupils on their "Know Cards." If a pupil fails on one of these cards he must add it to his "Don't Know Cards." It is also considered something of a disgrace for a pupil to think he knows something and then find that he does not know it. The final goal of each pupil is to have but one pile of cards, the "Know Cards," and to be successful in three tests given to him by the teacher. Even then he must frequently review his cards as the teacher may give him a test at any time.

Teacher-made devices.—Many teachers prepare original assignments with the help of a duplicator. Thus pupils are able to work easily at their desks and to do the type of work that the teacher wishes done. In one such assignment each sheet of paper was divided into twelve equal spaces. A drawing was placed in each space and directions given for relating the work to these drawings. For example, one space contained a drawing of three boxes and another space a drawing of three boys. The pupil was directed to cross out the largest box in the first space and to cross out the smallest boy in the second space. In another similar type of assignment the following are typical directions given:

Draw three trees. Cross out two of them.

Draw four rabbits. Cross out all of them. Write the number of rabbits remaining.

Other types of assignment sheets give lists of problems, the answers to which are to be written in the space provided, as

How many dimes in a dollar?

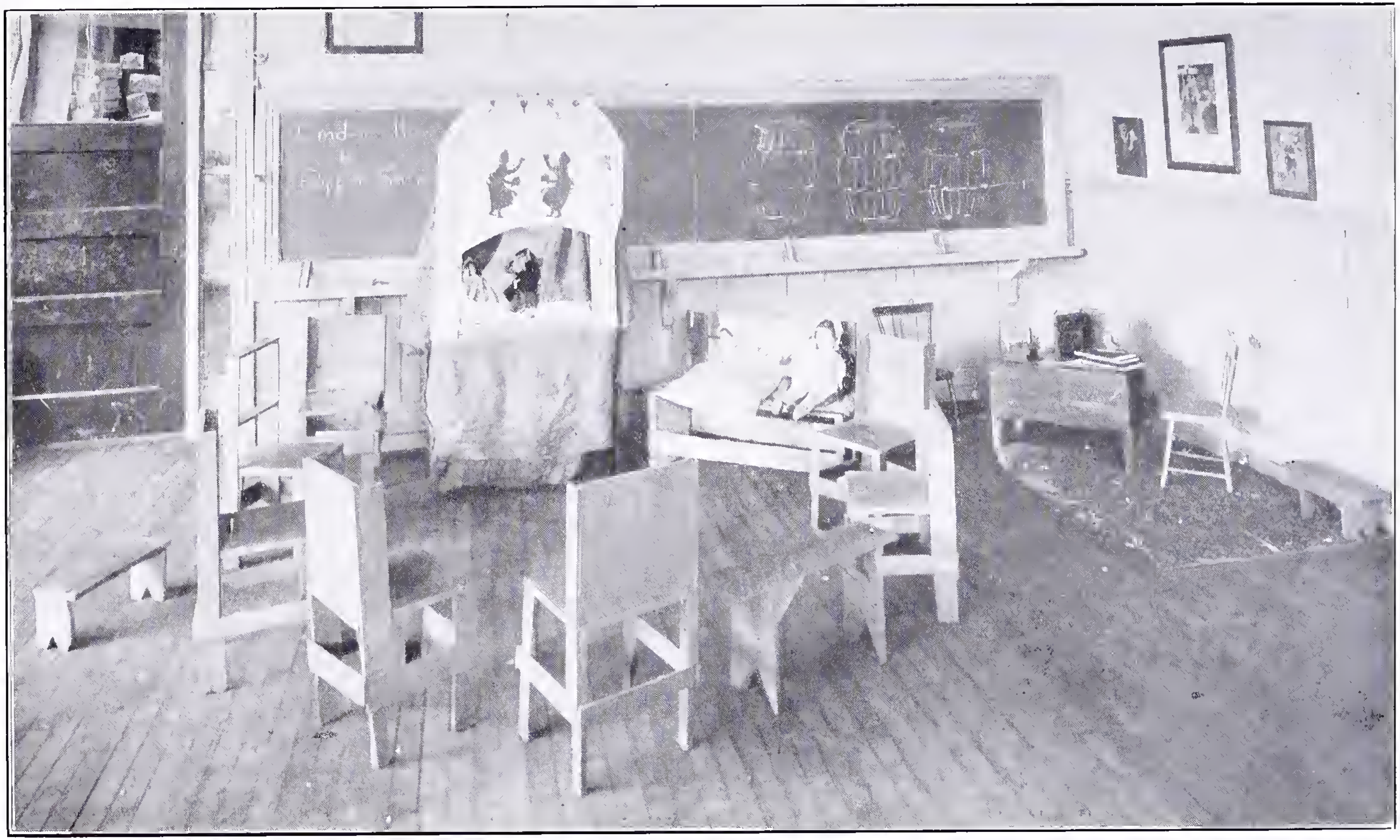
In thirty cents there are how many nickels?

In 43 cents there are......dimes and......cents.

Another sheet for individual work has three clock faces across the top, the hands set at different times. Below these, questions are raised respecting these clock faces with spaces for replies. Still another individual sheet respecting time-telling sets problems that require the drawing of clock faces with the hands at a stipulated time.

How to think about problems.—Each pupil in a fourth grade tried to organize a good method for thinking about how to solve a problem. One boy summed up the method that he proposed to use as follows:

Read the problem carefully. If you are not sure that you know what you are to find, try to think the problem in different ways. Find the numbers you need to use. Don't use numbers that are not needed. Decide whether to add, subtract,



EXAMPLES OF ACTIVITIES INVOLVING ARITHMETIC multiply, or divide. Try to estimate what a reasonable answer would be. Check your work if you are not sure it is correct. Ask yourself if the answer is a reasonable one.

Graphs.—Many schools emphasize the graphic expression of number facts. The pupils in a class studying the production of raw silk made vertical graphs showing the comparative relation between Japan, China, Italy, Austria and India in the production of raw silk and the number of pounds produced by each country. Another class divided a circle into sections representing the six leading sheep producing states. These sections were colored and the percentage produced in each of these states of the total number of pounds of wool produced in the United States indicated. Other similar representations include the relative values of certain industries; the six wealthiest nations in the world; the four leading manufacturing countries; the population of each continent; the relative importance of the leading countries producing cane sugar; the proportion of cotton produced in the south retained in this region for manufacturing purposes.

Cost in relation to a Christmas dinner.—One of the pupils in a sixth grade remarked that he wished he could plan a Christmas dinner and have everything he wanted. The suggestion was a popular one, and it was decided to bring to the arithmetic class the next day a list of the things that each one would like to include in his Christmas menu. No restrictions were made and the menus presented the next day were many and varied. The pupils were unanimous in agreeing that none of them had ever eaten a dinner identical with any one that had been planned.

It was decided that there must be some reason for this. Some one suggested that perhaps the dinner suggested cost too much. Accordingly the cost of each menu was computed for the number of persons expected to be present for Christmas dinner. The amount of each article required for the dinner for the number of people expected was estimated. In determining this the mothers of the children were consulted. Some of the children had parents and other relatives who owned grocery stores or markets. Those children reported the prices of the foods listed. When complete information had been obtained the class found the cost of the proposed dinner. The children were unprepared for the total cost of the dinners that they had planned, and readily saw that their parents would not wish to spend so much money. Each pupil then found the amount of money that his parents felt they could afford to spend for Christmas dinner. He then set about the problem of revising his original menu so as to make its cost come within the stipulated amount.

A George Washington party as a basis for number work.—Considerable impetus was given to number work in a first grade through the forms and computations that developed in giving a George Washington party, to which the pupils in other first grade rooms in the building were invited.

In setting the tables such words were learned as circle, straight lines, triangle, oblong. Examples of number computations and estimations follow:

1. Counting the children in the room.
    a. Each child counted the number of children in the group.
    b. Each child wrote his number on a slip of paper.
    c. The different numbers submitted were compared and correct number determined.
2. Counting the number in other first grades in the building.
    a. One child was sent to inquire how many were in each room.
3. Adding the number of children in each room together to find the number for whom preparation would have to be made.
    a. Several children were sent to count the children in the other two groups.
    b. When these numbers were determined they were added to the number of pupils in the home room.
4. Arranging for seating at the tables.
    a. The children experimented to see how many could be put at a table.
    b. It was decided that 10 could be placed at a table.
    c. The teacher put the diagram of the table and ten chairs on the blackboard.
5. Deciding how many tables will be needed.
    a. The teacher divided the number to be present at the party by the number that may be placed at a table comfortably.
6. Arranging the tables.
    a. The teacher asked the pupils for suggestions for the arrangement of the tables around the room.
    b. The children placed upon the blackboard diagrams of the way in which each one thought the tables could be placed.
7. Computing number of plates, glasses, napkins and spoons needed.
8. Counting total number of things used in setting tables.

A Valentine Day number exercise.—On the day following, a second grade composed arithmetic problems based upon their experiences on Valentine Day. These problems were reproduced by the teacher on sheets for individual work.

Learning to buy from the cafeteria.—The cafeteria in one school was made a background for learning money values in a second grade. Foods to be served with the price of each were posted each day in the classroom. The arithmetic period was frequently given to a consideration of these prices, the cost of what certain children proposed to buy, and the change to be received, if any.

A post office activity.—The children in a first grade decided to make their playhouse into a post office which could be used in sending valentines to the pupils in the room. This was carried out. A study of the facilities and work of a post office was then taken up.

An outline of procedure and arithmetical outcomes follow:

Procedure:

Needs arose which led to the following activities:

1. Construction of mail box.
2. Measuring and making of bars for windows, mail and parcel post signs, pigeonholes.
3. Discussions in regard to duties of postmaster, postman, and clerk.
4. Chart showing kinds of stamps with their cost.
5. Making of stamps such as, one cent due stamp; one-half cent stamp; one, two, three, four, five, six, seven, eight, nine, and ten cent stamps; air-mail stamp; special delivery stamp.
6. Division of room into streets, each row being a street and each child's desk a house having a number as 428.
7. Sending of parcel post packages.
8. Writing and sending letters.

Outcomes in arithmetical knowledge, habits and skills:

1. Meaning of 1 foot, 1 inch, 1 yard.
2. Ability to write numbers from 1 to 10.
3. Ability to read and write number as 428.
4. Recognition of small groups of letters and stamps without counting.
5. Recognition of figures and words to match from 1 to 10.
6. Meaning of 1c, 5c, dime.
7. Reading vocabulary clarified: cost, cent, nickel, dime, inch, foot, yard, words one to ten.

Number work in making chair covers.—In the early part of the school term when the children in the second grade were making plans for the year's work, the girls decided they would like to have a sewing club. The question as to what they should make arose. Someone suggested making curtains for the room. After some discussion it was decided that the room needed light and that something to brighten it would be better. All children were heartily in favor of making chair covers for the twelve library chairs when a child suggested this. An outline of the development of this unit with some of its outcomes follows:

Procedure:

1. Discussion of best type of cover and kind of material from standpoint of economy; from standpoint of attractiveness.
2. Measuring chair by children for lengths of covering including hems; for width of covering.
3. Drawing on board a line the length needed for one cover.
4. Extending line to length of twelve covers.
5. Measuring line with yardstick.
6. Writing amount of material required in yards and inches.
7. Teaching 2/3 yards, the equivalent of 24 inches.
8. Committee's trip to store for samples of material.
9. Drawing on board oblong representing amount of material needed for one cover.
10. Discussion of width of material and most economical way of cutting it.
11. Discovering that two widths of covers may be cut from one width of material; one-half of first estimate of material is required.
12. Purchasing of material by another committee.
13. Measuring of material into length for covers and cutting.
14. Measuring widths for covers from widths of each piece and cutting.
15. Measuring for hems on each end of covers.
16. Hemming covers, a child working on each end of a cover.
17. Fitting covers on chairs.
18. Finishing work.

Mathematical outcomes:

1. Larger realization of factors included in buying.
2. A working knowledge of measures of length: tape measure; yardstick; foot rule.
3. Recognition of units of measure.
   Length: inch; half-inch; foot; yard; 1/3 yard; 2/3 yard.
   United States Money: penny; nickel; dime; quarter; half dollar; dollar.
4. Ability to read dollars and cents.
5. Ability to add a two-figure number to a one-figure number in same decade.
6. Vocabulary clarified, as, length; width; cost; half; price; measure; one-half; one-third; two-thirds; dollar; cents; yard; foot; inch.

A school-built house.—The building and furnishing of a tiny house provided a class with many practical arithmetic problems. All material was furnished by the pupils. Boards, putty and glass, cardboard and mica for doors, nails, paint, wallpaper, oilcloth and rugs, silk for upholstering furniture, tar shingles, and other materials used, were brought from accumulations in the homes or obtained from other sources.

The house as planned was of comfortable dimensions. The scale used for actual building produced a small house. Cost of materials and other expenses were reckoned on a basis of the size of the house and the type of furniture decided upon.

A county fair number project.—A third grade attended the county fair on the day that school was suspended for this purpose. As an outgrowth of this experience these children decided to organize a fair, in which vegetables, fruits and flowers would be exhibited.

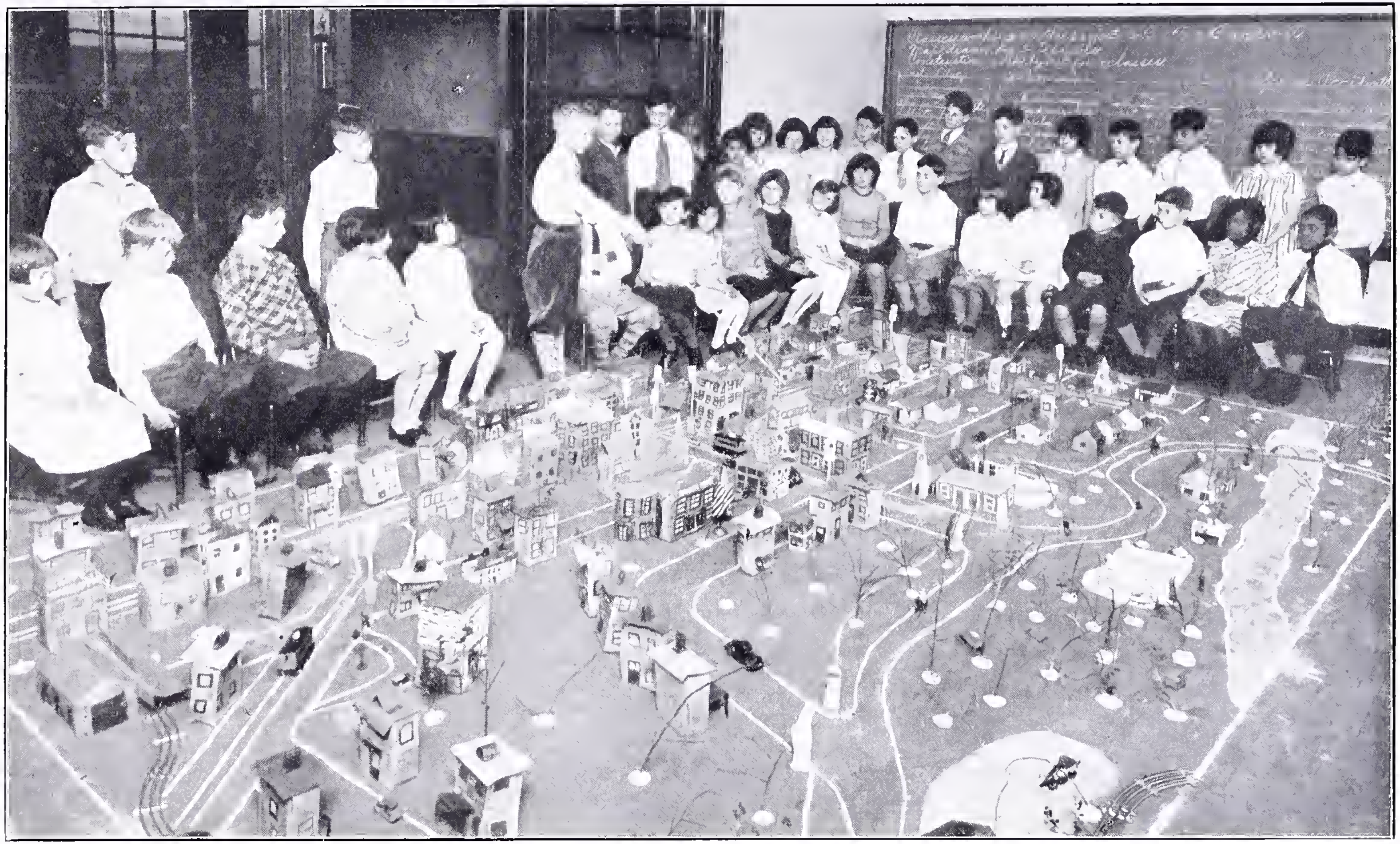
After the prizes were awarded the children did not want to break up their exhibit so one child suggested that they make it into a market. Committees were appointed to look up the prices of the various fruits, flowers and vegetables. They went to the market and stores and made out their price lists. These price lists were printed on oak tag charts with attractive pictures at the top.

The children were divided into three groups according to ability in arithmetical computation. Each group was given one period a day for two weeks for buying or selling either fruit, vegetables or flowers. The children took turns at being market keepers and cashiers.

The following are among activities practiced in this unit of work: Adding simple problems; making change; weighing; measuring; computing difficult combinations; comparing weights; writing cents, using the decimal point; reading market reports; checking work for accuracy; buying and selling courteously.

First hand experiences in house-building.—The parents of a boy in a seventh grade class, were building a new home. They provided the class with the specifications for various jobs with their cost. These facts stimulated many questions as to the factors that determine the cost of the construction of a house, such as, amount of time required, number of men employed, wages. In certain jobs the cost of trucking had to be included. In all jobs the man who supervised the work had to be paid for his time and knowledge. In short, this piece of work presented an almost unending series of interesting problems.

Capitalizing a new school-building.—A fourth grade in the training school of a teacher's college made the erection of a new building a background for much work in arithmetic. Among other activities a map was made of the campus with the new building.



CORRELATION OF CIVICS AND ARITHMETIC

Development of the table of liquid measure.—A number of children in a second grade drink milk in the rest period just preceding the arithmetic lesson. One day, when they had finished drinking their milk, they were asked how much milk they thought each one had drunk. One child said, "A quart," and another child said, "A gallon." It was decided that, since there was a difference of opinion, they had better find out definitely, if they could, how much milk each child had drunk.

The teacher was provided with a set of liquid measures, including ½ pint, pint, quart, and gallon measures. The quart measure was divided into fourths marked ½ pint, 1 pint, 1½ pint, and quart, respectively. Each measure of the set was also labeled with its capacity. The liquid was a two gallon bucket of water. One of the children who had a milk bottle, filled her bottle from the water bucket, and when asked which measure she thought it would just fill, she pointed to the pint. She poured it into the measure and was surprised to find it only half full. She was told to try again and this time chose the ½ pint measure and found it just accommodated the water in the bottle. She was asked to read the label on this measure, and when she said ½ p-t, she was told p-t were the first and last letters in the word pint and was a short way of writing it. A glass was then filled from the milk bottle and it was found that it held the same amount as the ½ pint measure. When asked again, "How much milk did you drink this morning?" one child answered "One glassful or one half pint."

Another child was asked to examine the other measures to see if he could find ½ pint marked on any of them. He found it on the divisions of the quart measure. These children have been taught to check all of their work wherever possible. Accordingly he was asked how he could check to see if the lowest section of the quart measure really held ½ pint. This quart and the ½ pint measure were not the same shape and their content relationships were not easily apparent. However, he immediately filled the ½ pint measure with water and poured it into the quart measure, verifying and stating his findings. He then put in the second, third, and fourth ½ pint measures of water, stating results as he found them. The abbreviation for quart was explained when he needed to use the term. All findings were tabulated on the blackboard as they were developed.

The pint measure was used by another child who found that 1 pint = ½ quart and that 2 pints = 1 quart. Another child found that 4 quarts = 1 gallon. Still another child found that 8 pints = 1 gallon. When the measures were lined up in the order of their size the children were able to organize the table of liquid measure.

Cost of alcohol and tobacco to the individual.—A seventh grade class discussed the financial advantages of the non-use of alcohol and tobacco. Several pupils related the savings reported as a result of total abstinence by men who had formerly been "drinkers." One such man stated that until he was forty years old, he "had given most of his money to the saloon keeper;" that since he had stopped spending money in this way he had paid for a home and bought two other pieces of property, besides supporting his family "as a decent man should do."

This class also estimated the savings to a man who did not use tobacco. Amounts spent per week by several users of tobacco were reported and total amounts estimated that were thus wasted from the time a man was twenty years old until he was sixty. What could be done with this money was also considered.

Becoming acquainted with banking methods.—In a sixth grade study of banking, the operations included were made as realistic as possible. For example several of the banks in the town provided the class with check books containing specimen checks. These blank checks were stamped "specimen" so they could not be cashed. With the help of these check books pupils learned to make out checks properly and to keep their stubs in good order. The fact that the banks had stamped the checks provided for the class so that they could not be cashed, prompted a number of questions such as, who has a right to make checks and the use of signatures on legal papers.

The pupils decided they would like more first hand knowledge of banks and banking. Accordingly a letter was written to the president of one of the banks, asking his permission to visit the bank and stating that the pupils in the class had a number of questions that they would like answered. The president replied to this letter and said that their bank would be very glad to arrange for a visit by the class and that someone would be assigned to answer any questions that might be raised.

This visit proved most profitable, and the pupils in the class returned to the problem of banking with a practical background for its study.

Consideration of vacation costs.—Two boys who were in a sixth grade class planned to spend a vacation of two weeks in company with their father and ten year old brother in a town about one hundred miles distant. The question of cost of transportation was an important one. The whole class wished to help in determining this.

It was decided that there were four possibilities for transportation: Rail, automobile, bicycle, airplane. In figuring out relative costs the pupils never wearied in their consideration of possibilities. The following are among questions raised and problems considered.

Rail:

1. What would be the fare for an adult?
2. What would be the fare for a ten year old boy?
3. What would be the fare for a twelve year old boy?
4. What would be the fare for two twelve year old boys?
5. What would be the fare for all four?
6. What time would it take to get there?
7. How many meals would be necessary on the way?
8. What would be the cost of one meal for one person?
9. What would be the total cost of meals enroute by rail?
10. If they took a taxi from their home to the station, what would it cost for one person?
11. What would it cost for all four?
12. What would be the cost of a taxi for all four from the station to their hotel?
13. What would be the total cost of transportation by rail?

Automobile:

1. Mileage to point of vacation by best automobile route.
2. Legal driving rate of speed on highways.
3. What is the usual mileage of a Ford on a gallon of gas?
4. How many gallons of gas would be needed?
5. Find cost of gas if low test Standard were used.
6. What would it cost if high test Standard were used?
7. How much does a quart of oil cost?
8. How much oil would be needed?
9. How much would the oil cost?
10. How long will it take to drive at the rate of thirty-five miles an hour?
11. Probable cost of meals per person.
12. Cost of meals for all.
13. Entire cost of transportation by car.
14. Which would cost more, going by train or by car? How much?

Bicycling:

1. The twins and father have bicycles. Harold has none. What would a secondhand bicycle cost?
2. What would a new one cost?
3. How much more would a new one cost than a secondhand one?
4. Harold has in his bank fourteen dimes, seven nickles, and sixty-three pennies. If he uses this money for his new bicycle how much more must he raise?
5. If the twins each give him three dollars for the bicycle, and he uses his bank money, how much is left to be raised?

6. If his father decides to contribute five dollars, how much is still needed in order to secure the new bicycle? How much would now be needed for the secondhand one?

7. What mileage could they make on their bicycles?

8. How long would it take them to get to their destination?

9. What meals would be necessary on the way?

10. What further expenses would be probable?

11. If they had twenty-five pounds of luggage apiece and sent it all to their destination parcel post, what would it cost uninsured? Insured for fifty dollars apiece?

12. Find entire cost of bicycle transportation for the four?

13. Find cost of bicycle transportation plus buying the new bicycle.

14. Would this cost more or less than going by rail? How much?

15. Would this cost more or less than going by automobile? How much?

Airplane:

1. Distance by air.
2. Cost of transportation for one person per mile.
3. Cost of transporting one adult the entire distance by air.
4. Cost of transporting the ten year old boy by air.
5. Cost of a twelve year old boy. Cost for two twelve year olds (twins).
6. Cost of transporting all four by air.
7. Cost of taxi from home to airport.
8. Cost of taxi from landing to destination.
9. Entire cost of transportation by air.
10. Would this cost more or less than going by train?
11. Would it cost more or less than going by automobile? How much?
12. Would it cost more or less than bicycling? How much?

Walking:

1. Father, a scout master, has a complete outfit. So have the twins. Harold would have to buy his outfit complete. What would a suit cost him?

2. What would a complete outfit cost him including suit, two blankets, mess kit, pup tent, cot.

3. If the twins each contribute three dollars, father contributes five dollars, and Harold supplies his bank money (see problem 4 under "Bicycling"), how much must still be raised for Harold's outfit?

4. Hotel costs for one person, for one day, three meals.

5. Hotel costs for four persons, for one day, three meals.

6. Probable day's mileage in walking.

7. Time necessary for walking trip.

8. Entire hotel expenses, if hotels were used for eating, only.

9. Entire expenses necessary if food is bought on the way and cooked enroute.

10. Would it cost more or less to cook food on the way or to buy meals at hotels? How much?

11. What would Harold's outfit in problem 2 under ''Walking'' cost if pup tent and blankets were omitted?

12. What would it cost if tent and blankets were included but if the cooking utensils were left out?

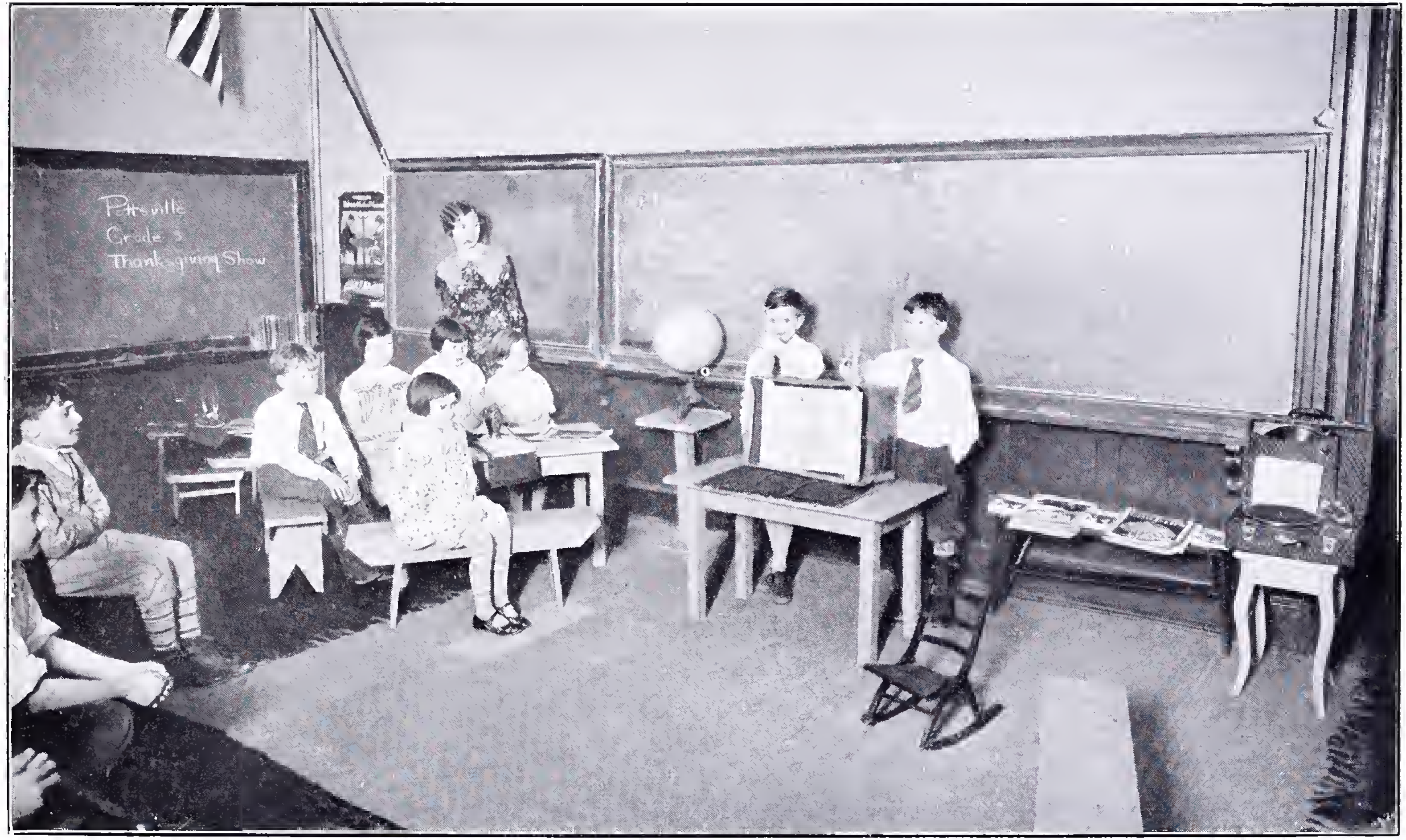
13. Entire hotel cost if one person only slept at hotels?

14. Entire hotel cost if four persons slept at hotels?

15. Which would cost the more, buying Harold's blankets, cot, and tent, and sleeping "out," or his sleeping at the hotel?

16. What would be more desirable from an economical standpoint? How much would be saved?

Actual life situations were involved in the above problems. In this case other elements in addition to cost were important; the fun of the trip, the amount of time available for visiting at their destination, and other factors. Finally the two boys presented the costs of the different possibilities to their father for consideration. The boys were in favor of walking, but when their father pointed out the considerable portion of the vacation that this would occupy they eliminated this possibility. Finally they and their father decided to make the trip by automobile, to take three days to it, and to spend one night at a hotel and one night in the open. They also decided to prepare their own breakfast and lunch each day and have dinners at a hotel or restaurant.



THE PILGRIMS IN A SCHOOL-MADE MOVIE

III. HISTORY AND CIVICS

Future history.—An eighth grade class organized national problems that they felt would affect history when they were men and women. They decided that since they would have a choice in the disposal of these problems, that they should be well informed with respect to their present status and keep in touch with their development as time went on. A list was made of the most important of these problems, as the class saw them, and the main points in the history of each one organized to date. The following were among problems listed: World peace; tariff regulations; employment of labor; control of immigration; provision for the education of children; payment of allied debts to the United States; child labor laws; enforcement of law and order.

Universal peace.—An eighth grade organized the history of the United States since the close of the World War as it relates to peace. A consideration of the part taken by the United States in the Washington and Geneva conferences for the limitation of armaments, the United States in the World Court, and the part taken by the United States in the treaties to outlaw war were among topics included. In the study of the treaties to outlaw war, booklets were made of clippings and pictures and the writing of the original signatures dramatized. This theme was also connected with the art work of the class and beautifully lettered copies of articles I and II were made:

> Article I. The high contracting parties solemnly declare in the names of their respective peoples that they condemn recourse to war for the solution of international controversies, and renounce it as an instrument of national policy in their relations with one another.
>
> Article II. The high contracting parties agree that the settlement or solution of all disputes or conflicts, of whatever nature or of whatever origin they may be, which may rise among them, shall never be sought except by pacific means.

The war for independence.—Numerous types of concrete learning may operate in a study of this period. For example, selections from famous speeches made in the English parliament by friends of the colonies, such as, William Pitt, Edmund Burke, and Charles James Fox, were read by one class. Following this as part of an entertainment to which the parents and friends of the class were invited, the situations under which several of these speeches were made were dramatized and selections given. For example, extracts were given from the Earl of Chatham's speech in which he said "if I were an

American as I am an Englishman, while a foreign troop was landed in my country I never would lay down my arms,—never! never! never!''

Ten vital episodes in the history of the United States.—A seventh grade class closed its year's study of the history of the United States with the compilation of a series of articles under the heading, Ten Vital Episodes in the History of the United States. As a first step the pupils in the class listed the episodes that they thought should be included. The large number of episodes suggested and the discussion incidental to final decision. in themselves, provided a thoughtful and interesting review of the field of American history.

When a list of episodes had been accepted, pupils wrote the reasons for considering each one a vital episode. Each episode was limited to a maximum of two hundred words. Included in these episodes were separation of church and state in Rhode Island, the return of the union and confederate armies to their homes, provision for public schools in the Northwest Territory, and the return to their homes of our soldiers engaged in the World War.

Pennsylvania Day program.—One group celebrated Pennsylvania Day as follows: The group was organized as a convention, each pupil representing one or more counties. When a county was called the delegate for that county arose and answered ''Here.'' He then related something historically interesting about the county that he represented. For example: ''I represent Adams County where the Gettysburg Battlefield is found. Here Abraham Lincoln delivered his famous address at the dedication of Gettysburg as a national cemetery, November 19, 1863.''

In another class the name of a leading man or woman in the history of the state was assigned to each pupil. When called upon the pupil gave the most important points in the life of the individual whom he represented.

Still another class divided itself into two divisions, one division representing a group of early Quaker settlers and another division representing a group of 1931 children. The Quaker children tried to give an idea of their lives and surroundings, and the modern children tried to show the differences that had developed. For instance, the Quaker boy said he was tired as he had to ''hitch up Old Bess and go for the doctor.'' Little 1931 politely inquired why the automobile hadn't been used. Such incidents brought out a considerable discussion of electrical appliances and modern water, air, and land travel, as well as other inventions. No speech was written out but the material was collected, approved, and assembled into a coherent trend of thought. The children ''thought'' the material so well that they were able to carry on a normal conversation.

Washington's Birthday.—Teachers find numerous ways in which to celebrate Washington's Birthday. Among booklets noted is a set with a shield shaped cut-out pasted on the front cover. This shield is of red, white, and blue striped paper with a picture of Washington cut from a canceled two cent stamp in the center of the blue at the top. Within these booklets are pictures of Washington's activities and cut-outs of printed material obtained from various sources. For example, one booklet includes a clipping from a magazine of the following letter written by Washington:

> My dear sir:
>
> Having learnt from an Advertisement in the New York Daily Advertiser, that there were superfine American Broadcloths to be sold at No. 44 in Water Street; I have ventured to trouble you with the commission of purchasing enough to make me a suit of cloaths.—As to the colour, I shall leave it altogether to your taste; only observing, that, if the dye should not appear to be well fixed, & clear, or if the cloth should not realy be very fine, then in my judgment some colour mixed in grain might be preferable to an indifferent (stained) dye.—I shall have occasion to trouble you for nothing but the cloth & twist to make the button holes.—If these articles can be procured and forwarded, in a package by the stage, in any short time your attention will be gratefully acknowledged.—Mrs. Washington would be equally thankful to you for purchasing for her use as much of what is called (in the Advertisement) powder smoke as will make her a riding habit.—If the choice of these cloths should have been disposed of in New York—quere could they be had from Hartford in Connecticut where I perceive a manufactury of them is established.
>
> With every sentiment of sincere friendship
>
> I am always, affectionately
>
> Yrs.
>
> G. WASHINGTON

Still other activities include dramatization, compositions, sandtable scenes, a series of episodes in the life of George Washington built up in boxes laid across the classroom floor against the wall; a Hall of Fame of Washington and his contemporaries, each one represented by a picture or a model made of clay or soap.

Community history.—In 1929, the County of Lancaster celebrated the two hundredth anniversary of its founding. In this the schools had a considerable part. This is illustrated in the activities of a school that undertook a concrete representation of important localities and episodes in the history of the county.

It was decided to make this study take the form of a historical tour of the county, in which points of special interest would be reproduced on sandtables or other foundational supports. The county was divided into eight parts according to the number of rooms in the building, the more difficult parts being assigned to the higher grades. The interest, however, was so keen and the spirit of cooperation so delightful, that pupils volunteered to help each other. Accordingly, when it was all assembled one could not say one particular room had made everything represented in a definite part of the county.

Much historical study was necessary in order to do this piece of work. Pupils searched their own and their neighbor's homes for newspaper articles, pictures, postcards, and books on the subject. Much valuable information was secured from books from the Historical Society. During the progress of this work the pupils also learned much from original sources. For example, they thoroughly covered points that they wished to see that were on or near trolley lines. Not infrequently such printed material as was available was found to disagree. In such cases original research was necessary, such as obituaries on tombstones, and interviews with the oldest inhabitants of the neighborhood and with the descendants of the people originally involved. Finally the class decided the matter on a basis of all the evidence collected.

The materials to be used in representing the localities and episodes determined upon, also challenged the ingenuity of the pupils. The boys in grade 6B, who were taking manual training, decided to make the houses out of wood. Six ten-foot boards ½ by 2 inches and the same number ½ by 3 inches were bought. The boys brought coping saw, files, vises, chisels and knives. Some of the boys from grades four and five who had tools offered their services, which were gratefully accepted. The sawing and filing parties were usually held from 8:15 to 9:00 A. M. After the buildings were made, they were then painted. Grades five and six used five different colors of real house paint; grade four used water colors and grades three, two, and one used crayons.

Fifteen sponges were bought and dyed green and made into trees, dyed toothpicks being used for trunks. Monuments and some of the church towers and tombstones were carved from soap. One type of fence was made of construction paper and toothpicks painted black, while another type was made of oak tag. Applicators were used for trolleys and construction paper for street car and sand highways. Tinted blue paper represented the main creeks in the county, while

A STUDY OF INDIAN LIFE

bridges were constructed of papier-mache, glue, cement, and modeling clay. The mountains were also formed of papier-mache. The soil for the tables was brought in paper bags by the pupils. The signs used in designating the places were made from construction paper and alphabet noodles. In short, each need brought a solution. When completed each project was laid out on a large flat table. Twenty-two boroughs and towns were represented on the tables together with forty historic places.

Other schools united to build up the history of the city of Lancaster in a similar way. For example, through careful study and research, the children discovered that in the year 1757 the city of Lancaster had accumulated enough money to erect a market house. This first market house was but a temporary structure, built upon poles, and with a straw roof. Curb markets also were in evidence and at first were held around the Center Square but grew in size until they extended over several blocks of the city. Owing to stringent laws of sanitation and increased traffic on our streets, the curb markets were abolished in 1926, and the Farmers Market was opened during the same year. The children in working out this project were intensely interested, and made with plasteeine and construction paper everything that was necessary for the markets.

Other typical episodes shown include Lafayette's visit to Lancaster City, and Lancaster as a port with boats of the period in the Conestoga River. In short, the development of Lancaster City was illustrated from its earliest settlement to its electrically illuminated present day square.

Indian life.—A third grade built up sandtable scenes illustrating the lives of different types of Indians, such as the tepee Indians, the cliff Indians, the longhouse Indians, the Eskimo of the far north. These activities with supplementary activities included the following: Drawing and cutting out Indians in typical costumes; construction on the sandtable of various types of shelter as, wigwams, tepee, longhouse, pueblo, Eskimo dwelling; making pottery by coil method: drawing Indian designs; weaving rugs; individual reading of Indian stories; making a collection of Indian relics; dramatization of Indian play, Dawn Boy, including the Indian snake dance; preparation and serving of such food as the Indians shared with the Pilgrims; making of hominy by boiling corn in soda water for six hours; parching corn; cooking dried apples sweetened with honey from bee tree; popping corn; grinding corn into meal; making corn bread; making weapons; collecting pictures relating to Indian life.

Kind acts by Indians.—Too often the unfortunate side of the Indian character is emphasized and his many fine qualities omitted. In a second grade study of the Pilgrims, episodes were emphasized that illustrated kindly relations between the Indians and the colony at Plymouth. For example, a dramatization was given in which the Indians showed the Pilgrims how to fertilize their corn fields through placing a fish with the seeds in each hill of corn.

A composite Priscilla.—The following description of how a class made a Priscilla Mullins was written by one of the girls in the group.

One day our teacher suggested that, as Thanksgiving is coming soon, we should have Priscilla Mullins visit us in school. First, one of the boys brought a dressmaker's form. Next, a girl in the class gave the head. Ever so many brought dresses, but at last we borrowed one that seemed to just suit Priscilla. One of the aprons that the girls brought was just the right length, so we added this. Next, one of the girls brought a wig and a prayer book. One of the teachers in the school furnished us with a belt and our own teacher supplied the gloves and shoes. We needed something to fill out the arms aud legs so one of the boys brought a half bushel of sawdust, and one of the girls gave us another peck. When everything was put together we had a fine young lady, our Priscilla Mullins!

She stands in the corner of our school room near our teacher's desk, where she has been admired by many teachers and pupils of the other grades. We are hoping John Alden will come to call on Priscilla, and spend Thanksgiving with her.

A correlated study of the Pilgrims.—A second grade study of the Pilgrims was made a background for the development of activities in other fields as reading, English, art, making of various articles and organization of illustrative material. The following are examples of work done:

1. Reading of Indian stories.
2. Collection of pictures and materials relating to the topic. For example, one pupil brought to the school a pair of wooden shoes from Holland; another contributed several arrow heads; still another pupil brought a tiny reproduction of Governor Bradford's chair made by an uncle.
3. Construction of Indian homes, canoes, cradles and other articles typical of Indian life, as found by the Pilgrims; building of Pilgrim homes and furniture; making of soap, candles and cloth.
4. Dramatization of outstanding episodes in the history of the Pilgrims; telling stories of the Pilgrims; composition of Pilgrim stories in the first person and illustrated by pictures from magazines or original drawings. One of these stories follows:

I am a little Pilgrim boy. My father came to America on the good ship Mayflower. The winter was very hard for us. Many of our people died. There are many Indians in America. We made log houses for ourselves. We get up early evry morning. I work hard hlping my fathr. Many of the Indians are our friends.

Foreign-born citizens.—A dramatization of the means through which a person who is a citizen of another country may become a citizen of the

United States grew out of a study of naturalization. Episodes were planned, and the various scenes written and criticized either by committees appointed for the purpose or by the class as a whole.

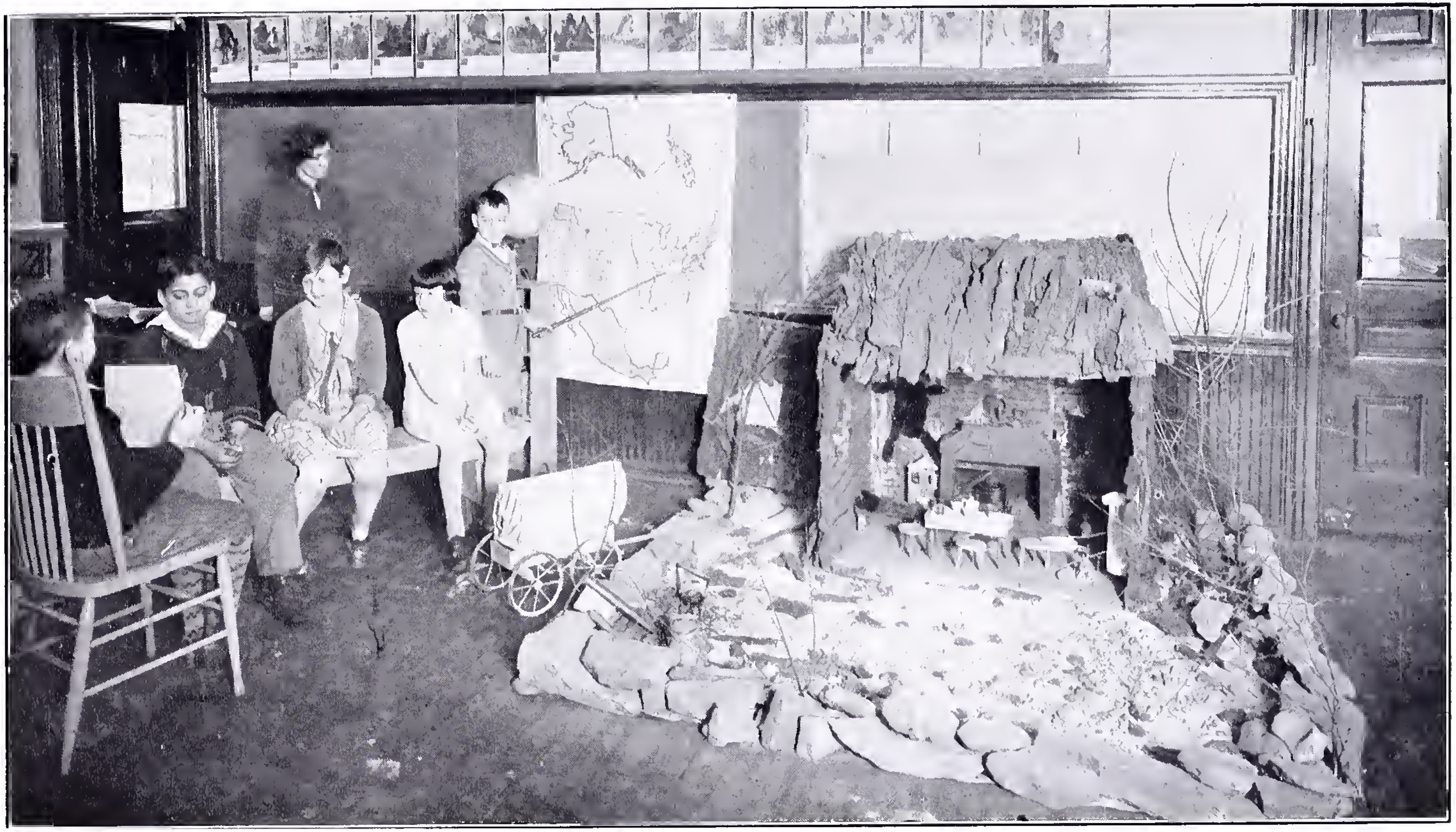
In connection with the development of this dramatization, a naturalization court was visited, and comparisons made with the corresponding episodes in the play as planned. As a result of this first-hand observation several changes were made in the original manuscript. The play was finally given at the school morning assembly. Upon request it was later repeated for a college class in the school, a teachers college.

The play opens in Tony's home. Tony who wishes to obtain naturalization papers, has been told by Guiseppe that he can sell his vote for money. Tony's daughter, Josephine, who has attended the public schools is shocked by this idea and explains to her father that no good American citizen sells his vote. In the scenes that follow, Tony is taken through various procedures necessary in order to secure citizen papers.

A safety town.—The teacher of a sixth grade class desired to instill in the children's minds the idea of constant caution with regard to safety and to develop a correct knowledge of safety in conjunction with safety laws. After a considerable discussion of safety measures and laws, a boy suggested that the class build a safety town. This was accordingly done.

As a first step, the class decided what they would represent in their town. Necessary materials were then gathered. Each child contributed whatever material he had that fitted into the plan made. The poles, safety gates, and watch tower were constructed by several boys. The houses, church, and school were built and painted by another group of boys. The girls dressed dolls that were of various sizes to represent adults and children.

With all the materials assembled, the children were now ready to construct the model town. A group of three boys and two girls were chosen by the class to do this. A large flat board was placed on a table. A covering of brown paper topped by tissue paper was laid over the board to represent cement. Two sidewalks, each twenty-five inches long and three inches wide were made of paper upon which bricks had been painted. These sidewalks were placed opposite each other and ten inches from the edge of the board. Houses were placed on one side of the town, making a residential section, while the business section was on the opposite side. At one end of the town a railroad was built. A train was placed on the tracks, and people who were approaching were arranged outside the gates which were down in a safety position. Automobiles and trucks were placed on the street. Those going toward the railroad tracks were also awaiting the lifting of the gates. Oppo-



A CONCRETE STUDY OF PIONEER LIFE

site the railroad at the extreme other end of the town were the cross-roads. Here were placed the traffic beacon and the traffic officer with the stop signal. Dolls were arranged crossing the street. The boys illustrated the correct wiring of houses. A huge sign, painted by a boy, was placed from pole to pole across the town with these words upon it, "Welcome to Safety Town."

Safety rules.—The following safety rules were organized by a rural school:

1. Remember the bank of safety pays 100 percent and never fails.
2. Handle firearms with care.
3. Do not stop in the way of traffic.
4. Never climb poles or trees on or near which are electric wires.
5. When you are about to cross a track, stop, look in both directions, listen.
6. Keep to the right in walking and entering doorways.
7. Don't play ball in the street for one strike is "out" when the auto hits you.
8. Always wait until the car stops before you get on or off.
9. When you wait for a car, stand on the curb.
10. Cross streets at the corner and at right angles, instead of diagonally.
11. Do not sled ride in the streets.
12. Never pour kerosene into a coal or wood stove, even when the fire is out.
13. If you build outdoor fires, be sure that they are cold before you leave them.
14. Do not play in the street.
15. Thaw frozen pipes with hot water, not with flame.
16. Avoid standing under a tree, near a wire fence, or beside a pole in a thunderstorm.
17. If you don't want your next ride in a hearse, stay off the back of trucks.
18. Keep children away from open fires.
19. Read the labels on bottles before drinking any of their contents.

Pioneer History.—The purpose of this unit was to give the children an appreciation of the hardships, dangers, and pleasures of life among the earlier settlers in western Pennsylvania. This unit was worked out by means of problems and activities.

The following are examples of concrete activities that were carried out:

1. A miniature log cabin was made from logs, bark, stones, and mud. When completed the cabin was 30″ x 15″ x 12″. The door and window were made of

skins. The roof was made of bark. Stones were used in making the fireplace. Mud held the logs and stones togethr.

2. Furnishings for this cabin wre made, such as beds, tables, and a three-legged stool. These were made from twigs. For the table, there was a homespun cloth.

3. The lighting of the cabin was illustrated through the making of dipped candles.

4. Corn was ground between stones; butter was made in miniature churns; cooking utensils were modeled.

The kindergarten builds a bank and a store.—Anthony's interest in building a bank offered opportunities for an excursion to see the banks in the neighborhood. On the way back, Stewart called the attention of the group to a large carpet mill nearby one of the banks. He said he would like to build that mill. This new interest appealed to most of the children, so they stopped to observe the details of the building. A large water tank was built on the top, and a fire escape on the side. The building was very long, but not as high as the bank. It had many windows about the size of windows in the homes of pupils.

The following day these facts were recalled, and in the work period Stewart and his workmen laid out the plan for the mill on the floor with chalk, and began construction. Every detail was worked out in proportion to the bank. The height of the bank windows were measured and blocks used that were just half the height of these windows. The mill was ready for a roof the next day, but there were no boards which could be used for this purpose. The children said that the teacher of manual training would lend them wood. Stewart and Elva measured the length of the mill they were building and found it to be one yard stick and fifteen inches. The whole class visited the teacher of manual training, selected wood, and measured off each board for the boys to cut. The roof was laid and the building completed.

How to make a water tank was next discussed. The children suggested that they might "roll a strip of paper and hold it together with clips, and make the top part by cutting a slit in the circle and pulling the sides around to make the point." They looked out the windows to see how many tanks the mill across the street had. They saw two. Billy saw a smoke stack with smoke coming out of it. It was decided that their mill was to have two tanks and a smoke stack made of blocks. When the tanks were completed, ladders were made to enable a man to climb to the tops of the tanks to inspect them or for other purposes. When one of the girls finished her ladder, it was found that it was too high to lean against the water tank. Looking through the window, the children saw many tanks built on high foundations on roofs of nearby mills. Empty boxes were used to serve as foundations for the tanks.

Billy said that if the tanks were that high his smoke stack must be even higher. Russell's job was to build the fire escape. He said that he would build right up to the top window, "so that the people can jump out the window and rush down the fire escape."

Many of the parents of these children helped in the mill and the children eagerly told of the machinery used. They also looked at pictures of men using looms. The children said they were machines. They learned the word loom. One of the pictures showed a man weaving a rug from a pattern. The children called the patterns "designs." They were told that the people who make designs are called designers. A number of children said they would like to be designers and make patterns for rugs. Before beginning work, the children noticed the designs of several sample rugs and two of the kindergarten rugs. In the work period, two very good patterns were made. That same day, the class visited the manual training room and saw a real loom. Stewart even worked the pedals and saw the shuttle move up and down. They were extremely interested in the large number of wires and treads. They decided that it would be fun to make a rug.

A child remarked, "Mother buys her rugs in a store, not in a mill." Other children agreed with this. The following Thursday the class went on an excursion to a rug, linoleum, and carpet store. There were rugs in the window. The children noticed that some were plain with a strip of color around the edge. Others, they said, were made of different colored stripes "Like Louise's pattern on her dress." One child said that inside were "billions of rugs." All rugs were rolled, and stood upright. Some were very narrow and some were wide rugs for larger rooms. Elva called the narrow rugs "entry" rugs. The children pointed out the designs. A few linoleum rugs were patterned with flower and star designs; others were patterned with geometric forms. On the way home, Elva said, "Well, we have our mill, now we'll have to build a store."

The following week, the children were still interested and built a store of large cardboard boxes. The store had many rugs. All were rolled up and tied with string; some were narrow, others very wide. The children made rolls of paper of different sizes, and arranged the store with them just as the rugs were arranged in the real store. Several children enjoyed weaving rugs for their doll houses. Cardboard looms were used to make these. While the boys built the store, the girls made rugs to place on sale. The boys experimented a bit, first piling one box on top of the other. The boxes were of different heights and in the end both sides of the store were not the same height. Stewart tried piling the boxes "on their sides" but the lids came off. "We don't need the lids anyway." "Look! we can use this part for a shelf,'' suggested Russell. Since the boxes were the same width, they decided they could make the sides of the store the same height by piling the boxes on top of each other on their sides. Stewart counted the number on each side to make sure the height would be equal, double row of five on each side.

The following day the roof was made. More boards were obtained from the manual training teacher. Russell built the counter of small empty boxes, and put a chair inside for the storekeeper. Two strips of paper were measured to hang at the back of the store. These served as curtains. Russell and Edward decided that the sides of the store did not look very neat, so they measured and cut more strips, and held them in place to be thumbtacked. Anthony and Frank were very much engrossed in work near the bank. When questioned, they said, ''This is going to be a wharf. Ships come in here with fruit for the store.'' Russell said, ''But our store sells only carpets and rugs.'' Can't it sell fruit too?'' asked Frank. ''No, the store we saw didn't,'' Elva replied. They were told how the ships come in from other countries bringing great rolls of stuff to be used in the mill for making rugs and carpets. They decided to load their ships with material for this purpose. Rolls of cotton roving were used to represent bales. Joseph said he would make a ship. Billy asked to make a big truck to carry rugs to the store. The next day the store was finished except for its supply of rugs. Quite a number of rugs had been made by this time. Stewart and Peter rolled the rugs and tied them with string, ''just like they were in the big store.'' They cut paper to make rugs of various sizes. A few rugs were opened on the counter ''to show the mothers the designs.''

Later it was decided to rent a house which the pupils had built behind the piano. All the furniture was placed on the shelves of the store. Two mothers rented the house, and then went to the store to buy furniture. ''What are we going to use for money?'' the mothers asked. Marbles were suggested, but the children decided that marbles would roll, and that they didn't look like real money. Anthony said, ''We've got money in our bank.'' The mothers said that they would first ''have to take their bankbooks and draw money out of the bank.'' Anthony and Frank were the tellers. The mothers drew money out of the bank and went to the store. The tellers were kept very busy. The children then went to the store to buy. The moving men brought the toy trucks to take the furniture home. The store was very popular and its stock was soon sold out.

Concomitant activities growing out of the building of the mill and store were quite as valuable as the primary projects. For example, the mill activity stimulated tone matching plays in music. Pupils tooted in imitation of the mill whistle and sang "Away to work my father goes." Again the whistle tooted and the children sang "Home from work my father comes." Out of this, dramatizations grew of mothers saying goodbye to fathers and of mothers welcoming fathers when they came home from work.

Buying and selling at the market.—A second grade was taken to visit a nearby market. The children suggested that they build a market in the schoolroom. The planning of the building necessitated many conferences before the best mode of procedure was determined upon. Finally, the pupils decided to build the stalls first. On inquiry they discovered that the Manual Training Department had a quantity of very thin wood which could not be used there. This was quickly appropriated. In addition, empty boxes from neighboring stores and home cellars were brought to the schoolroom. In short, there was no dearth of building material. When the stalls were completed, another problem arose: How to make the things to be offered for sale.

Finally all was ready for buying and selling. Before "going to market," pupils made out lists of purchases that they wished to make. Prices were carefully noted and compared with actual prices for these articles in the stores. Pupils tested the accuracy of their computations through adding the toy money that they had left to the cost of their purchases and finding if this sum tallied with the amount of money with which they went to market. In short, buying and selling and the computations involved became a concrete problem.

The group working on the market realized the right of all pupils to do their work undisturbed. For a time the work on the market was carried on in the schoolroom, but it was found that this was interfering with other work and other workers. It became necessary, therefore, to find some other place where this work could be carried on. The janitor cleared out a small room in the basement and here a work shop was set up. The work done there was unsupervised, the only restriction being that pupils were to make sufficient progress to account for the time spent.

Peace slackers.—An eighth grade arithmetic class estimated the percentage of qualified voters who had failed to cast their ballots in the 1928 presidential election. In their civics period, the class considered the reasons for the fact that so large a number of people failed to vote. The class estimated that ten percent of the people who failed to vote were probably too ill to attend to voting. It was decided that a majority of the remainder of the people who failed to vote "did not

INITIATIVE AND ORIGINALITY IN THE ANNUAL CIRCUS PARADE care." The opinions of the class respecting such people were far from complimentary.

Choice of candidates for public office.—A seventh grade class considered the following question: Why do people vote as they do? As a first step, each pupil in the class stated the political party for which he would vote if he were of legal age. He then attempted to give the reasons for his choice. It was found that reasons given were not very clear; that many pupils chose the party they did because their fathers or mothers voted for this party, or for other reasons not subject to proof on a basis of desirability. How to prove to one's self for which candidate a person should vote was next considered. In connection with this, the political platforms of the presidential candidates were read and their principal points listed. In all of this, the teacher acted in the capacity of a chairman who insisted upon fair play and good sportsmanship. In fact, the whole procedure was serious and orderly.

Practice in election procedure.—The habit of thinking and acting in terms of majority rule through the ballot should be set up long before the completion of the eighth grade. Pupils should participate in the formation of school policies and activities to the limit of their capacities. Every public voting day should be carried out in the school as nearly as possible in the same manner as that established by law. Specimen ballots should be obtained if they are available. The counting and reporting of these school ballots should be carried out with care. In short, everything should be done in the school to set up the voting habit, and to make voting for the person educated in our schools an easy and intelligent process.

The following outline shows the election procedure in a seventh grade:

1. Tax bills, based upon actual valuation of occupation, sent out.
2. Tax collector received taxes at stated times. Usual tax receipt given. Checks or play money used.
3. Registration day: Everyone registered name, address, party affiliation and occupation. Tax receipt presented.
4. Election day: All persons who had properly registered and paid taxes allowed to vote. Regular sample ballots used.
5. Votes were counted by Boards of Election, and return sheets, secured from commissioner's office, filled out.

Church experiences.—Going to church is a regular experience with most of the children in a certain kindergarten. It was natural, therefore, that they should desire to build a church. No sooner had the enclosure been built than the children were playing church with gusto and reverence. New ideas for improvement were added until the children felt satisfied. In short, the building of the church extended over a period of several weeks.

An organ was the first piece of furniture built. This was followed by other pieces of church furniture. Since most churches have bells or chimes, a steeple was constructed with a bell which was sounded for each service. As soon as a roof was added the idea of windows was of vital interest to all. It was finally concluded that church windows were long and had beautiful pictures and colors in them. During a suggestion period for the windows, the teacher was informed by several pupils that the story their church window told was about "Mary and her little lamb." This afforded opportunity to suggest that they all look more carefully at the windows, and also for the teacher to tell the story of the Good Shepherd. A few days were spent in experimenting on how to paint windows. The children were allowed to choose what they wished to paint. Some conceived the idea of small panes of glass. The best results were placed in the church.

Food booklets.—A third grade class organized food booklets in which pictures of foods found in the local grocery and meat stores were shown. Finally,the growth and preparation of these foods as a source through which many thousands of people earn a living, was developed. Pictures illustrating this thought were then collected and added to the booklets.

Cleanliness in the handling and preparation of food.—Milk and its products were made the center for this study. Pupils considered the sources of milk, its distribution, and the manufacture of butter and cheese. Several visits to farms and dairies were made and the need for extreme cleanliness in the different processes emphasized. Finally, each child made a small portion of butter and put into operation the principles and procedures studied.

Each child provided his own churn and made a dasher. A milk bottle answered for a churn. A dasher was made of a small wooden stick with cross pieces attached to the bottom. Each child also provided a bowl and spoon for washing and salting the butter and patting it into shape. The teacher furnished each child with a small portion of cream and a piece of wax paper in which to put his "roll" of butter.

The churn and dashers were thoroughly sterilized before the cream was poured into the bottles. Pupils also washed their hands before beginning the churning and again before taking the butter out of the churn. When completed, each tiny roll of butter was labeled with the maker's name and placed in a refrigerator. The next day the class reviewed the means through which cleanliness was assured in the manufacture of this butter.

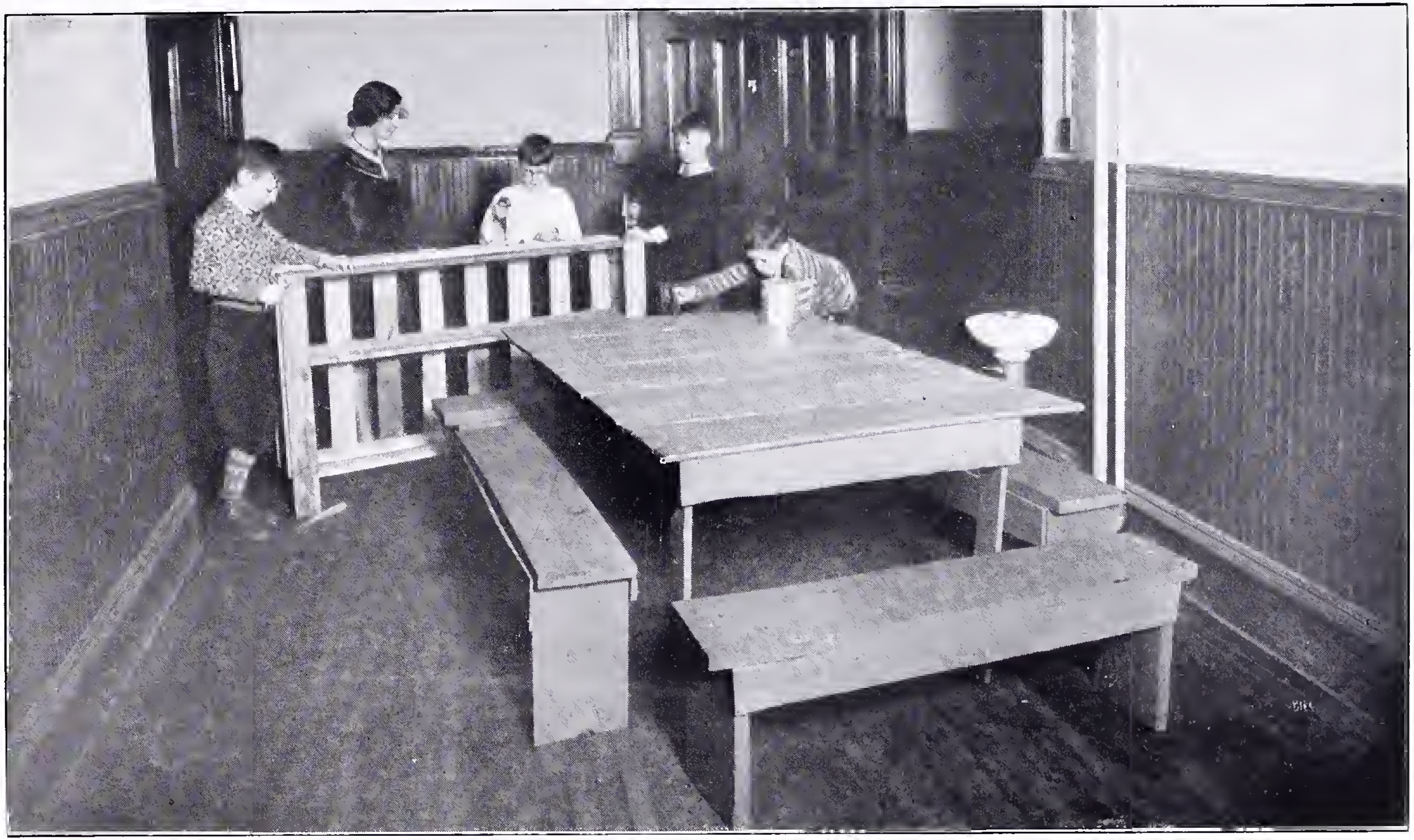
The unit closed joyously. Each child spread butter on a cracker provided by the teacher and ate it. Here again cleanliness was emphasized. Spreaders were made of clean pieces of cardboard. Paper napkins were passed, upon which to place the cracker, butter, and spreader. Needless to say, each pupil thoroughly washed his hands in preparation for this cracker and butter luncheon.

A study of bread-making.—The following activities grew out of a third grade study of bread-making in the community:

Trip to a local bakery to observe the processes of bread-making; letter of thanks written to bakery; chart made to record number of loaves of bread sold per day in community; story written about picture of the bread boy; wheat planted in the sandtable; stories told of experiences in running and observing farm machines in grain fields; story written of life of a grain of wheat; story written about the trip to the bakery; making of two loaves of bread; baking of loaves in the oven of a nearby home; later making loaves of bread into bread and butter sandwiches which pupils ate.

Planning for the happiness of others.—A third grade was studying cotton clothing as Christmas drew near. The children were asked if they would like to make a Christmas present of cotton for a little brother, sister, or friend. They, of course, were eager to do this. They were given a choice of a cat, a pig, or a bunny. The bunny was decided upon. The pattern was then drawn by the children. It was found that about a half yard of material would be needed to make this stuffed toy. Each child was told to bring to school a half yard of some kind of cotton material. The teacher furnished the cotton batting. The bunnies were cut out, using the pattern made by the children. Each child then sewed together the front and back of the bunny and stuffed it with batting. The face was drawn with crayola. The completed gifts were carried away with much joy.

Do it yourself.—The children in a fifth grade had a few library books but were without library furniture or equipment. They decided to have at least a "library corner." The teacher and pupils decided that the first piece of furniture to be made should be the library table. After considerable class discussion and planning of ways and means, a committee of six boys were appointed to visit furniture and other stores to secure large boxes for lumber. All available boxes were to be examined, and those made of the strongest and best lumber selected. Three large boxes were finally secured. The members of the committee



COOPERATION IN MAKING FURNITURE FOR A SCHOOL LIBARAY reported that they, themselves, had been most courteous and polite when asking the merchants for the boxes, and that the merchants, in turn, had been kind to them, and had seemed interested in helping them.

The school janitor consented to let the boys use a room just off the engine room for the work of table construction. Finally, the boxes were deposited in the school basement. There they were to be taken apart, and the lumber thus secured, sorted and piled. At this point, considerable careful planning was done. For example, it was decided that the four table legs would have to be identical, as to length, anyway, and had better all be made and remeasured before any nailing was done; that it would look better if the cracks in the table top should all run in the same direction; that all boards for the table top should be identical in length, and that consequently they, too, had better be made and then remeasured before they were nailed together; that the boards for the table framework should be identical in length and that they also should be remeasured before they were put in place; that the table should be strong.

After a week's work the table was ready for painting. When the table was placed in the library corner, the need for chairs to use with it was evident. After considerable thought and planning, the class decided that instead of attempting to make chairs, they would make four long benches. This, they felt, would be easier work, and more pupils could use them at one time. Securing the lumber for the benches, making the measurements for them, and sawing the materials, proceeded in much the same manner as in the table making. All the measuring, sawing, and cutting was done before the nailing together was attempted. Thus the four benches, when completed, were identical. By collecting four coupons, which a hardware merchant was distributing as a part of a paint sales campaign, and by putting ten cents with each coupon, enough green paint was purchased to paint the benches and the table. The painting was done in a hallway, each boy taking his turn in doing the work.

After the table and chairs had been used for a time, the pupils decided that they needed a bookcase. At first the pupils decided to make a hanging book case, and to suspend it by screws and hooks against the wall. As the work proceeded the plan proved impracticable, and a bookcase that stood on the floor was finally made. Practically all of the pupils assisted in one way or another in securing of materials, and in the furniture construction. The saws, hammers, screw drivers, and paint brushes used were borrowed from the homes of the pupils.

Some of the desirable character experiences practiced by these children are indicated by the following quotations from their conversations as the work progressed:

"When few tools are available, it is only fair to use them 'turn about.'"

"If the janitor lets us use his room, we must clear up all the rubbish and dirt that we make."

"If we need furniture badly, and have no money, we can make the furniture ourselves."

"Careful measuring and work are necessary if we expect our benches and tables to rest steadily on the floor."

"If you want anything, you can get it if you think and work."

A street car project.—A kindergarten became much interested in the street cars in the town. They discussed these pro and con: Proper behavior in a street car; payment of fare; where the street cars stop for passengers; how to get off a street car; and other points pertinent to the topic.

A pupil suggested that the class build a street car. Responses were enthusiastic. The car built was made of large blocks. Its size was related to the size of the street cars in the community. The proper spacing of entrances, doors, and windows was studied intently. Care was also exercised in determining the dimensions of the aisle and the spaces in the front and back of the car. When all was completed each child placed his chair in position for a street car seat. Toy money was also made with which to pay fares.

The children were extremely happy in making and using this car. Conductors and motormen were frequently changed so that each pupil had several opportunities to occupy these coveted positions. All of the children enjoyed choosing destinations and paying fares. In short, this project offered many opportunities for the practice of desirable activities.

Current congressional acts.—An eighth grade class, following the acts of Congress in the press, was much interested in the refusal of its members to follow President Coolidge's suggestion that the states and local communities immediately benefited by the control of the Mississippi River bear twenty percent of the cost. Both sides of this question were thoroughly discussed. Finally the principal arguments on each side were listed and placed upon the blackboard, where they were allowed to remain for several days. During this time, each pupil was expected to consider both sides fully and come to an individual decision.

Airmail ramifications.—The following description prepared by the teacher of a sixth grade class, of the activities growing out of Lindbergh's airmail route to the West Indies is self-explanatory.

The attention of the class was attracted by Charles A. Lindbergh's airmail route between Florida and the West Indies. They proposed that they make a map, and indicate the new air route on it.

The first map planned was to have been a small one, including only Lindbergh's route; that is, the southern part of the United States, the West Indies, Mexico, Central America. On this map, the pupils were to have indicated the air routes with rows of pins, and the stopping places by printed stickers.

Before the map was made, however, the pupils' outside reading, inquiries and other activities had opened up so many new, interesting leads in subject matter, that they decided that nothing less extensive than a Pan-American map would suffice for all the uses that they had in mind for it. Accordingly, a relief map of the Americas was made. This map was built upon a table which the previous sixth grade class had constructed and had later bequeathed to the present sixth grade class. The pupils covered the whole table top with white oil cloth. Lindbergh's air route, Miami, Havana, San Juan, Virgin Island, Trinidad, Marocay, Panama, Mariogua, Belize, and back to Miami, was duly indicated with pins and stickers. Then occurred an incident which gave rise to so many interesting ramifications that the original study of Lindbergh's air mail route to the West Indies was enlarged into a sort of current events project which lasted indefinitely.

One of the class committees thought that the table upon which the maps were built could be considerably embellished by placing thereon a United States airmail postage stamp. Accordingly, a trip was made to the local postoffice to purchase one. The postmistress, hearing that the stamp was to be used as part of an exhibit, took great interest in the matter, and in addition to selling the airmail stamp, told the pupils of many other interesting stamps and stamp permits which are used by Uncle Sam. She then gave them one of the recent Ohio River Canalization stamps, and showed them an Edison historical stamp. These sixth grade pupils did not abandon their original airmail route project. They carried it out to a fine conclusion. In addition to the air route study, however, there was developed a veritable avalanche of auxiliary questions which wanted answering. The following are examples of these questions:

Why did President Hoover have to delay the Ohio River canalization dedication in order to confer with Ramsay McDonald? Who is Ramsay McDonald, and what did he wish to see Mr. Hoover about?

What is meant by a "proposed inter-oceanic-Nicaraguan canal?" Is such a canal needed? If we did not use canals so much before we got airplanes, why do we need to start building them now?

Is it true that the canalization of the Ohio River cost Uncle Sam $125,000,000? Was it right for each of the other forty-eight states to help pay this? Why?

Extraneous material which the class found especially interesting included a letter from the local postmistress. This letter follows:

> Dear Boys and Girls:
>
> In answering your letter of December 11, 1929, I am undecided as to what information concerning "The Canalization of the Ohio River," would interest you most—the statistical side or the historical side. I shall tell you a little of each.
>
> The celebration was to be held at Louisville, Kentucky, October 23, 1929. President Hoover expected to make his address concerning the opening of the waterway from the cabin of the steamer on which he traveled from Cincinnati, Ohio, to Louisville, Kentucky. Owing to the inclement weather, the address was given indoors.
>
> The President said, "Washington's dream of one hundred and sixty years ago has come true by taming 'Ole Man River,' making a good waterway from Pittsburgh, Pennsylvania, to New Orleans, Louisiana. The new part of the canal just opened, is from Pittsburgh to Cairo, Illinois. It has changed the romantic side of the river from the 'steamboat'n' days of Mark Twain. It has changed the dangerous channel from two feet to nine feet. Transportation is now made safe at all seasons."
>
> The stamps issued in commemoration of this event were not very much admired, but sold rapidly. There were 30,000 issued in sheets of 400 each. They were first sold at Cairo, Illinois; Evansville, Indiana; Louisville, Kentucky; Cincinnati, Ohio; Homestead and Pittsburgh, Pennsylvania; Wheeling, West Virginia. The date of the sale was postponed from October 12, to October 19, 1929, because President Hoover was in conference with Honorable Ramsay McDonald, Prime Minister of England.
>
> Sincerely yours.

Every citizen an officer under the law.—An eighth grade class discussed the duty of citizens in a democracy such as ours to report infringements of the law. A number of cases of failure of citizens to recognize their duty in this respect were related. These included the case of a man who witnessed an automobile accident by a "hit and run" driver, but who did not take the number of the car because he "did not want to be mixed up in any lawsuit;" of unreported cases of knowledge of illegal selling of intoxicants; of dealers selling cigarettes to minors. The class finally decided that if every citizen did his duty with respect to law enforcement. that vast improvement would result.

Business assets.—A sixth grade made a study of the business firms in the town. Emphasis was placed upon the value of each type of business to the community and the methods of its organization. After the main points relating to a business had been studied, a visit was made to a typical plant. For example, a visit was made to a bank. The children watched the work that was being done and identified the different forms they knew. They were also permitted to ask questions. Following this, they went to a committee room for a discussion of the things they had seen. There they asked a number of questions of the official who was present. The ones in which they seemed most interested were how bankers start a bank; what precautions are taken to prevent loss by theft or fire; how these losses are made good.

A kindergarten flower shop.—About two weeks before Easter, the children in a kindergarten were encouraged to tell what they knew about flower shops and greenhouses. Following these conversations, the group visited several flower shops and also a greenhouse. The season was especially fortunate as at this time the flower shops contain a variety of flowers and the greenhouses are preparing the flowers for sale to the shops. Finally the children decided that they would like to build a flower shop in the kindergarten room.

The children were divided into four groups, each group with a definite task. One group planned the building of the shop with Patty Hill blocks. Another group modeled clay flower pots and painted them. Other groups made the flowers and other necessary articles. During the period of construction, additional visits were made to flower shops and to the greenhouse to secure needed information and to check the accuracy of the work done. The finished product was very effective with the show case full of flowers, the striped awning made by a five year old child, and all the other arrangements found in a real flower shop.

Self-rating charts.—Each pupil in a seventh grade made a chart on which each day he recorded the answers to the following questions:

1. Did I enter the room quietly today?
2. Did I settle down to work quickly today?
3. Did I come to class with all the necessary materials today?
4. Did I work independently today?
5. Was I at all time courteous today?
6. Did I use every minute of my time to good advantage today?
7. Did I show the proper spirit of thrift today?
8. Am I satisfied with my work today?
9. Total number of checks for the day?
10. Total number of checks for the week?

A few minutes were taken at the close of school each day to fill out the chart. Pupils were stimulated to regard these charts as private

EARLY PRACTICE IN THE COURTESIES OF SOCIAL LIFE matters, subject only to joint consideration by the pupil and teacher upon the request of the teacher or pupil. Occasionally, for example, the teacher quietly requested a pupil whose conduct had been non-social to remain a few minutes after school so that his chart might be filled out by both of them working together. In such a case, the teacher tried to call the pupils' attention to the value of his good points and sought to stimulate him to try to increase the number or degree of such points.

The teacher reported that the keeping of these charts brought about a decided improvement in the work of the pupils as well as in their general conduct. Whether or not such a plan has value, rests, of course, with the teacher.

Mutual cooperation.—A second grade decided to build a playhouse. After considerable search a committee appointed for the purpose found two boxes. These they decided to unite in making their house.

Getting the boxes into the schoolroom was a bit of work which was accompanied with considerable difficulty. The school sits upon a steep hill, and a fence of tall iron pickets and a narrow gate surround it. The smaller box just barely passed through the gateway and the door. The larger box would not come through. The committee faced a problem. They had been to great trouble in tugging the box up the hill. One had pulled the small express wagon upon which the box had teetered, while the other three had tried to hold and balance it there. They did not wish to lose it. Finally, the sixth grade boys offered to help the second grade committee to take the box apart, carry it into the schoolroom, and there nail it together again. The offer was accepted. Soon the boxes stood side by side in the schoolroom ready to be transformed by the second grade pupils into a playhouse.

When the pupils in the second grade discussed the building of the playhouse, they saw the advantages of careful planning. They also saw the advantages of giving certain pieces of work to certain pupils. They finally decided to cut windows in the house; cut duplicate openings in the adjoining sides of the two boxes, so that the openings would constitute an adjoining door between the two rooms; nail the two rooms together; paint the outside of the house; furnish the house; assign certain parts of the work to different pupils; try to help each other in all the work involved.

Eight boys attended to the door and window cutting. This work involved a great deal of preliminary measuring and marking, and also a great deal of hard work in the actual cutting of the openings. They at first tried to cut these openings with pocket knives, but found such tools so inefficient that they borrowed three saws. With these, they completed their openings. They selected and used a combination of grey and red paint for the outside of their house. After this had been applied and a diminutive flag, which had been donated by a pupil for use on a flag pole in front of the house, had been placed, the class members were ready to attack the problem of house furnishing.

Ideas concerning this problem were many. Some wished to bring their own small chairs from home. Others wished to construct the chairs as they had seen another second grade do. One pupil thought he could make a radio from a brown box which he had. A little girl wished to make a cupboard for the dishes. She knew just how it could be done and she had just the very box too. Another wished to make a grandfather clock; there was a picture of one in a primer. Others desired to make sheets, pillow cases, quilts, table runners, window curtains, rag rugs, chairs, tables, and beds. Could others bring their dolls? Could they make clay dishes? Wouldn't it be all right to bring a set of little tin dishes which Santa Claus had brought? Wouldn't they have to have napkins, too? and napkin rings? and knives and forks? and spoons? And what what about window draperies? and cretonne for the chairs? and story books to go in the house? and some pictures on the wall?

The teacher encouraged the pupils to act on practically every suggestion made. Finally the children made or constructed three tables; three chairs; two beds; one cupboard; one rug; one pillow; one counterpane; one clock; one radio; two window curtains; one set window drapes; two table cloths; two cretonne bed covers. They brought from home one teapot; six cups; six plates; six spoons; six napkin rings; six knives; six forks; six chairs; six dolls; story books.

Throughout the building and furnishing of this house, pupils and teacher sought to be especially polite; to treat one another as people should who live in the same house. After completion, the same spirit operated in the use of the house. The group consistently demanded the retirement of anyone who "makes quarrels," or who "doesn't know how to live with other people."

In another second grade, furniture building activities were initiated by a boy who built a chair for the room. This stimulated general interest, and a table, a sofa, and benches were built. This grade also built a puppet theater. Sacking was dyed for curtains and properties made as they were needed.

A museum for the whole school.—In a ten-teacher school the children of the upper four grades decided that they would start a school museum for the use of the entire school. Some of the sources through which material was obtained follow:

Harold thought that he would be able to get something of interest through his father who worked in the steel mills. A few days later he came to school delighted with the thought that he was making a worthwhile contribution to the collection. He brought iron ore, pig iron, steel, coke, coal tar and ammonia compounds.

John, whose father worked in another steel plant, brought a piece of another type of iron ore. In short, a very useful collection of materials produced in the steel mills or used in the making of their products was brought by the children whose fathers were employed in these mills.

From coal bins in the homes and other sources, a good collection was made of various kinds of coal and of fossils found in the mines. The latter included a petrified bird and a petrified snake.

Mary's father, who was a traveling salesman, contributed a big vanilla bean in a long glass bottle, well corked. Anna wrote a letter to a friend living in Virginia whose father grew peanuts on his farm, and asked that she send her samples of these peanuts. The result was a big bunch of peanut plants with the entire stalks, including the roots with the peanuts hanging on them. Frances' cousin in Montana had some peacocks on his farm. Frances wrote to him of the school museum and asked for some peacock feathers. These arrived in a short time.

Julia's missionary friend had just returned from China and had given her a set of chop sticks. She was so anxious that she do her part in building up a school museum that she gave these chop sticks to the school collection, although she treasured them highly.

Various kinds of moths and butterflies were brought in.

Good pictures were obtained from old calendars, from magazines, newspapers, and various other sources.

The district representative to the Legislature obtained a case of school exhibits from the Commercial Museum.

All contributions were organized and safely housed. As specimens were brought in each one was tagged. A tag was a plain white visiting card on which was printed with ink the following: Name of specimen; where obtained; by whom contributed; the date of contribution. A large cupboard with glass doors above and drawers below served as a display case.

Appropriate provision was made for the preservation of each specimen. For example, moths and butterflies were mounted individually under glass; the peanut plant was placed in a large pasteboard box with a piece of window glass cut to form the top and the whole put together with a glued binder.

Correlations of other subjects with the museum were frequent. For example, as part of the work in English, letters were written for various commercial collections. When these were received, letters of thanks still further correlated the museum project with English. A child was also appointed to write to the pupils in a particular grade in Tulsa, Oklahoma, telling them of the museum project and asking them to send specimens of cotton. In turn, a promise was made to send them anything available in Pennsylvania that might be of interest to them. This was successfully carried out on both sides.

Finally, the museum material was placed in an accessible place. The interest that the children felt in this self-made museum was indicated by the number of children who stopped day after day to see what had been added and who was responsible for the new additions. As a matter of fact, a remarkable collection of material was made, and it continued to grow.

Ten commandments for a better community.—A sixth grade was much interested in a study of the facilities and opportunities of the community and the duties of citizens in relation to each other. At the close of this study they organized the following ten ideals of a good community:

1. The home life of citizens must be happy.

2. The community must have modern schools and other educational advantages, as theatres, lodges, clubs and newspapers.

3. It must have intelligent leaders and a well-regulated government.

4. Its citizens must be obedient to all laws.

5. The people must be industrious workmen and all citizens must co-operate in work, recreation, and good government.

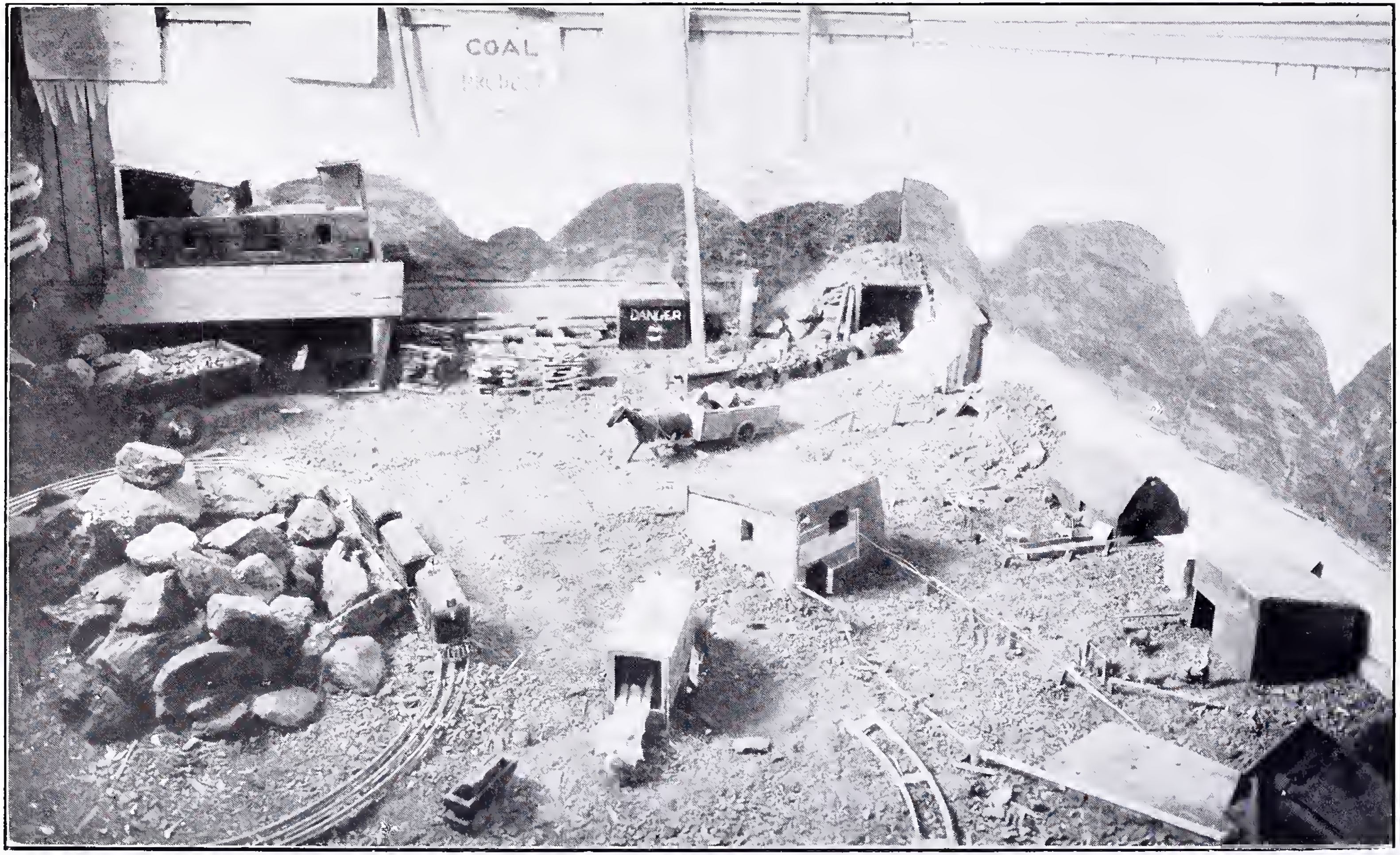
6. There must be churches.

7. Citizens must be clean, keeping home and surroundings clean.

8. There must be good recreational facilities for all citizens.

9. Provision must be made for easy transportation to other places and communication with other communities.

10. Every citizen must help to make the foreign born man or woman a good citizen.



CLARIFYING A COMMUNITY INDUSTRY

IV. GEOGRAPHY

A unit in coal mining.—The town in which this unit of school work was developed is located in the anthracite region of the state. Most of its school children are possessed of a vast but miscellaneous store of knowledge concerning the mining industry. The vocabularies of these children include such terms as fire boss, mucker, charge man, mule driver, colliery, breaker, picking coal, safety lamp, foreman, miner, laborer, gig, pea coal, blasting, mine breech, cave-in, black damp, slope mine, shaft mine, manway, props, powder house, chestnut coal, rice coal, and egg coal. They know, too, epic stories, many of them first-hand, of mine rescues, strikes, mine damp, explosions, and cave-ins. They know, also, interesting superstitions of all kinds concerning mines and miners. Some of them know, with too much vividness, the privations endured by the families of miners when the "mines are not working." In short, mining is so much a part of the lives of these children that they are prone to play at mining; to construct miniature mining machinery; and to use mining subjects as the motifs for various creative activities.

The teacher felt, therefore, that a project in coal mining would be especially appealing. She felt, too, that many of the ideas of these children needed to be reconstructed; that while they had considerable contacts with coal mining, that their knowledge of this subject was generally unorganized and narrow, and that many of their concepts of mines and miners were inaccurate and misleading. After considerable discussion, the children decided to construct a colliery, and to use their supply closet, a well-lighted place about six feet square adjoining the classroom, for such construction. They wished their colliery to be large enough so that several of them could work comfortably in it at one time. They also wished each detail of their mine to be strong and well constructed. The parents of twelve of the children were miners. Nine of the children had been down in mines, all of them had visited collieries, and all of them were conversant with the more familiar mining facts and expressions. A committee of ten revisited a nearby colliery for the purpose of securing coal for the project, and for making fresh observations of mining activities.

The project, when completed, included a breaker, slope mine, mule yard, mules, shaft mine, manway, powder house, engine house, air pipes, ambulance, railroad track, coal of the several named sizes, safety lamp, picks and other mining tools, miners' caps, coal trucks, timber yards and timber, air pumps, water pumps, a wall frieze on mining, and drawings relating to colliery activities of various kinds. Some of the work was planned in advance. Other parts grew as the activity progressed. The work was quite authentic, not merely from a study of illustrations, but rather from actual, first-hand knowledge of the details as they appear in the mines which are located near the town.

A method for studying Australia.—The teacher, after finding all he could on the construction of boomerangs, made several. After experimenting with them, one was chosen to start the problem.

The pupils were taken out of doors at the beginning of the first period. They had no knowledge of the boomerang or of the purpose of the field work so far as the teacher knew. The boomerang was thrown by the teacher. Everyone in the class was interested and each pupil was given an opportunity to throw the boomerang. The question arose, "For what is the boomerang used?" The teacher then told the story of how the boomerang was made, where it is most used, and who uses it. As the natives of Australia use the boomerang to kill small game, members of the class were curious to know about the animals of Australia. After twenty-five minutes of discussion and practice in throwing the boomerang, the class went indoors. Question after question arose on the way back to the classroom. The teacher finally suggested a pre-test to determine how much the pupils already knew about Australia. Everyone accepted the challenge and the remainder of the period was spent on the test.

The second period the teacher told the pupils about the kangaroo, how it differed from other animals, and the probable explanation of its presence in Australia. Then the names of several other strange animals were given, and the pupils were asked to find out what animal on our continent each one of the Australian animals mentioned resembled most. Finally, someone suggested a zoo in which to display the animals. This was received with interest and a zoo keeper was appointed. The zoo keeper immediately assigned to each member of the class an animal. Each explorer had to bring back either a picture or drawing of the animal with a description. As the class was too large for the number of animals, some of the members were assigned trees and plants of Australia as these are just as unique as the animals. The zoo was to be completed by the morning of the fourth day.

When the class went back over their work it was found that they had neglected the person throwing the boomerang. What about the native? How does he live? Are there many whites? How much do we know about the people of Australia? The search for the answers to these questions was done outside of class, and no specific assignments were made.

The fourth day was spent in gathering a bibliography on the industries of Australia and in finding out about the climate. The pupils engaged in the contest to see who could furnish the most references respecting the topics on the blackboard. The climate was discussed and with the help of a map of Australia, the "why's" of the climate were reasoned out. No formal recitation was used in the entire problem.

When the pre-test was given on the fifth day, the children were eager to see how much they had learned. The results of the two tests were as follows:

Scores	Lowest	Highest	Median	Possible
Pre-test	9	32	21	67
Re-test	40	65	56	67

Individual projects.—A teacher of a fifth grade reports that while studying Europe, the children in the class thought they would like to make something which was characteristic of each country in that continent. Accordingly, each child chose the county and the particular phase of that country in which he was most interested. Some of the subjects chosen follow: Grazing, England; fishing, Scotland; an ancient building in ruins, Greece; making of corks, Portugal; farming, Germany; a street scene, Turkey; growing wheat, France; mining coal, England; drying macaroni, Italy; spinning flax by hand, Ireland; mining coal, Wales; grazing, Switzerland; dikes of Holland, Netherlands.

A few of the best projects are described below, as the materials and procedure for each project are different.

"An ancient building in ruins" was made by tacking together strips of wood to form the structure of an ancient building. Some of the upright pieces of wood were cylinderical in shape to represent pillars. The structure was painted white, making it look like marble.

"Growing wheat in France" held the attention of the class for a considerable period. The bottom of a cake pan was covered with grains of wheat. The pan was then put into a box. The wheat was kept moist and soon began to grow. The pan was completely hidden by the green wheat. In one corner a doll was placed, dressed in a French costume.

One of the most realistic as well as beautiful projects was "Grazing on the slopes of the Alps in Switzerland." A good-sized box was used as the foundation for this. Wall paper was dented and formed to resemble the Alps mountains. In the valleys artificial grass was laid and a few tiny Swiss houses built. Sheep were placed in the pastures with a shepherd boy watching them. Another boy, dressed in the native costume of Switzerland, was placed farther up the mountain. A goat was shown peering over one of the crags. Sparkling artificial snow was put on the mountain tops.

Riddles.—The following geography riddles were among those prepared and used by a sixth grade:

I am a large body of fresh water.

I am one of the highest bodies of water in the world.

I lie in South America.

What is my name?

I am a continent separated from another continent by a canal.

The equator does not touch me.

In my southern part there are mountains that contain the highest ranges in the world.

What is my name?

I am a seaport in the western hemisphere.

I export more rubber than any other port of the world.

What is my name?

I am a large city.

I am in the Western Hemisphere.

I am the second city in size in South America.

What is my name?

I am a strait.

I connect a sea and an ocean.

I separate two countries in the eastern hemisphere.

What is my name?

A European entertainment.—This was prepared and presented to their parents and friends by the pupils in a fifth grade class with the assistance of their supervisors and teachers. An exhibit representing each country in Europe was arranged. Articles were brought or made by the children. Some of the children were of foreign parentage and these provided especially interesting materials. A scene typical of each country was also prepared and given. These scenes included dances, songs and descriptive materials.

A United States fair.—One class about to study the geography of the United States decided to close their work with a United States fair. As a first step, a large outline map of the United States was made on the floor and divided into sections. The pupils were then divided into groups, each group being responsible for the material in the fair respecting an assigned section. In its final form, the fair was a great success. It was extensive, well organized, and realistic. Material used included pictures, cutouts, toy machines and other articles; built-up scenes on sandtables; clay models of animals; models in soap of monuments; exhibits of the industries of the region. Finally, parents and friends and other classes in the school were invited to "the fair." In connection with this, invitations were written,

CHARACTERS IN A EUROPEAN FAIR

posters made and "talks" respecting different sections of the fair prepared.

Initial unit in map-making.—Children often find their first work in use of maps difficult. The reason for this usually lies in a poor foundation for work of this kind. In one class, as a foundation for map making, the children were taken for many walks. As they turned at right angles from one street to another, the teacher asked them in what direction they were walking. The teacher also frequently asked the direction of a certain building from the group. The direction in which the streets extended was also emphasized. When a sense of the direction of movement and of one project from another was set up, the children drew with chalk on the classroom floor the route over which they had traveled. Along this route they drew the principal objects that they had passed, such as a church and the homes of several pupils. Care was taken in drawing this map to place objects correctly in relation to directions.

The difficulty of seeing this map from the seats was pointed out by the children. They suggested that the map be copied upon paper and hung on the wall. This gave rise to a consideration as to the best wall upon which to hang the map so that east and west on the map might point toward those directions. Additional walks extended the scope of this map. For example, a stream flowing through the town was included. Later a commercial map of the community was hung on the wall, and the part of the community covered by the map made by the children was located. When this study was completed, the class knew well the directions on a map and had a good initial understanding of the meaning and construction of maps.

Some materials for making maps.—Ways noted in which maps may be made include maps made on the wrong side of oilcloth and colored with colored crayons; maps made of flour and salt. In these latter, about one third as much flour as salt is used. The flour and salt are mixed together and moistened with water. The map surface is built up with this mixture. Care must be taken to use only a small proportion of flour, or the mass will be doughy and will not harden. Only enough flour to hold the salt together is necessary. When dry, these maps are hard and durable and may be colored with water colors.

Correlations with a products map of France.—A large colored map of France was drawn on stiff cardboard and placed on the floor. Different products produced in different parts of France were indicated in the appropriate localities, so far as possible. The names of products that could not well be placed upon the map were printed on cards and

THE RUBBER INDUSTRY MADE REAL THROUGH MOVING PICTURES AND OTHER CONCRETE ACTIVITIES attached to hat pins which, in turn, were inserted in the cardboard map. The products were then labeled and placed upon a nearby table. A surprising amount of material that really came from France was unearthed.

Another class doing a similar piece of work added a program and invited their relatives and friends. Every pupil in the class had a part in this party. A reception committee received guests; other pupils acted as ushers; others served the refreshments; still others were responsible for the program.

A study of the rubber industry.—As a part of their supplementary geography and history material, the teacher of a fifth and sixth grade supplied the class with copies of a pamphlet entitled, The Romance of Rubber, which she secured from a commercial firm.

After a preliminary survey of the pamphlet, reading it, and studying the illustrations, the pupils decided to make a special study of rubber; to build a wild rubber plantation in the Amazon jungle on the floor; to construct a tropical frieze as a background; to show the natives at work; to make huts modeled after those in which the natives lived; to organize a moving picture show featuring the discovery, history, growth, manufacture, and present-day status of rubber.

Much information was necessary to a truthful expression of these pieces of work. The class accordingly consulted maps, globes, and encyclopedias, and collected much reading material and many illustrations relating to the subject.

Finally all plans were carried out. The picture show consisted of a box about 24 x 12 x 18 inches, covered with paper, with a rectangular space cut from one side for showing "film," and with two round poles, working windlass fashion, for the turning of the "film." The "film" consisted of a series of pictures, about 9 x 12 inches in size, relating to rubber, which were pasted on a long strip of tough paper, the ends of which were thumb-tacked to the windlass poles. There were seventeen scenes concerning rubber shown on the film:

Scene 1: Columbus, on second voyage, "discovering" rubber when he saw native Haitian boys playing with black balls that bounced.

Scene 2: The Portugese in Brazil discovering some of the native uses of rubber.

Scene 3: Native smoking latex over fire in order to extract the rubber from it.

Scene 4: Native pouring rubber on his bare feet, thus making himself a pair of perfect fitting rubber shoes.

Scene 5: Early kinds of rubber clothing: stiff enough to stand alone when cold; soft and sticky when warm.

Scene 6: A man stuck fast to a chair. He had sat down before a fire to warm himself, and his rubber coat had become sticky and had glued itself to the chair.

Scene 7: Goodyear experimenting in his kitchen laboratory, trying to find a way to treat rubber so that neither heat nor cold would have ill effect upon it.

Scene 8: The Hevea rubber tree, considered to be the best variety of all the 350 different kinds of rubber-bearing plants, trees, shrubs, and vines. The tree when grown is about 60 feet tall, and 10 feet in circumference.

Scene 9: The leavs and nuts of the Hevea tree.

Scene 10: The transplanting of rubber trees from Brazil to the West Indies.

Scene 11: A modern plantation of transplanted rubber trees, located on the island of Colombo, off the coast of India.

Scene 12: A map of the "Rubber Belt," a belt 60 degrees wide, extending 30 degrees above, and 30 degrees below the equator.

Scene 13: A station where latex (the secretion from the bark of the rubber tree) is collected.

Scene 14: A modern scientific way of separating the particles of rubber from the latex.

Scene 15: Airplanes, ships, and dirigibles now being used in connection with the rubber industry.

Scene 16: A modern rubber plantation, thousands of rubber trees transplanted and set in rows.

Scene 17: Some present-day uses of rubber: tires, raincoats, erasers, balls, radios, telephones, hose, air brakes, diving suits.

A trip to Japan.—Pupils and teachers in a fifth grade class studying Japan decided to go together to this country. Everyone entered into the spirit of the idea and it is doubtful if many actual trips are made more happily. Problems that needed to be settled before starting out on the trip were listed, plans made, and the trip finally undertaken. Numerous books relating to the topic were read and a large amount of clippings and pictures gathered. The following are among activities that grew out of this trip:

1. Writing letters to the travel departments of several banks and department stores for relevant literature respecting railroads and steamship lines.
2. Discussion of the kind of clothes necessary for the trip. (This necessitated a study of the climate of Japan).
3. Collection by each pupil of pictures of the clothes that he proposed to take with him. Finally, suitable luggage for the trip was chosen.
4. Organization of essentials in a passport. Pupils brought passports from their homes. Each child made his own passport, pasting in his photograph, or indicating the space where it should be placed, if no photograph were available.

5. Examination of railroad and steamship folders and decision as to routes and steamship to be taken.

6. Discussion of service to be found on train chosen for trip, including upper and lower berths, dining car, and observation cars.

7. Discussion of appearance and general service in the hotel chosen for the stop-off in San Francisco.

8. Discussion of probable experiences on first day on board ship, berths, service, food, weather.

9. Dramatization of landing at Yokohama.

10. Dramatization of experiences of a Japanese inn.

11. Showing of lantern slides, illustrating a sight-seeing trip in Yokohama.

12. Making post cards of Japanese scenes to send to friends in the United States and a study of Japanese stamps.

13. Slides illustrating a trip through Japan as a whole. This included visits to Fujiyama, to rice fields, tea gardens, silk farms.

14. Entering daily in diary, kept for the purpose, principal activities and events of each day.

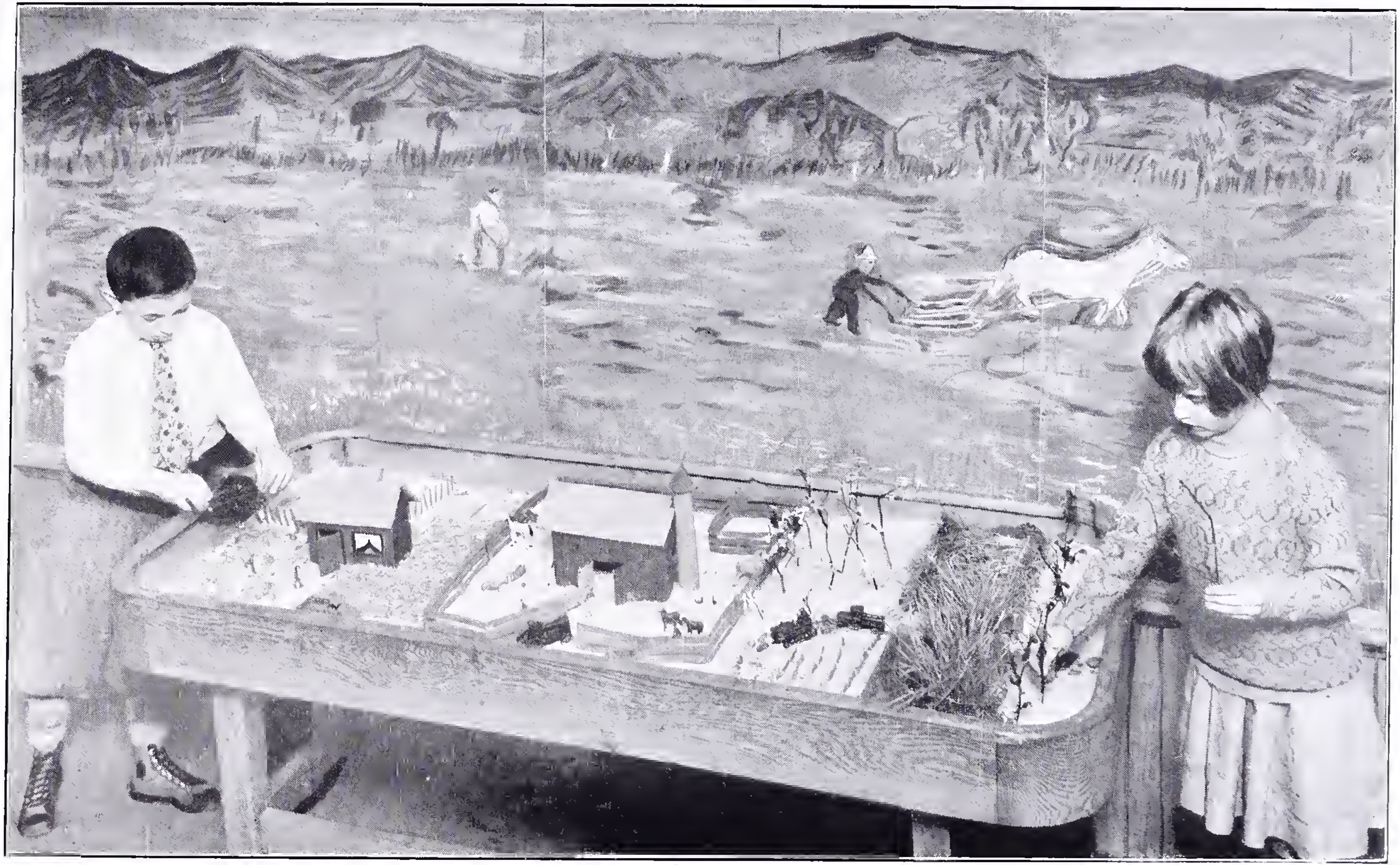
15. Collection of pictures and materials illustrating trip.

16. Dramatization of return home and description by each one of the most interesting thing he saw on this trip.

A trip to Africa.—Another class organized and carried out a trip to Africa as a review of a previous study of this continent. In this case, initial interest in such a trip was stimulated through talks on Africa by returned missionaries, which most of the pupils had heard. They were surprised at the missionaries' reports of the physical strength of the natives of Africa who lived near the Equator. They were also surprised to find that uncivilized peoples of Africa were usually kind to white men and gave them the best of their food and their best bed upon which to sleep. The talks by these missionaries had also stimulated a considerable interest in wild animals in Africa such as the lion, the giraffe and the rhinoceros. In connection with these talks, the missionaries had also shown pupils pictures of African gold and diamond mines and African jungles and deserts. During the study of this country, too, a resident of the community who had visited in Egypt talked to the group.

Each pupil planned and wrote up his own trip. All were profusely illustrated with original pictures and maps and with pictures and maps found in magazines and newspapers, or secured in other ways. It was decided to start the African trip in the region north of the Atlas Mountains. As a preliminary, political and physical maps of Africa were studied and a general notion of the country built up.

As a part of this trip, each pupil kept a diary in which events and



GETTING IN TOUCH WITH THE PROBLEMS OF THE FARMER conditions were described. Finally, each pupil made this diary into a booklet. This booklet was illustrated with pictures and maps obtained from various sources. Each one sought to make his booklet interesting, both for himself and for the other members of the class. One booklet included thirty-seven pictures and maps collected from various sources.

Making the Black Forest real.—A village in the Black Forest of Germany was built, on a basis of material included in the text and other available books and magazine articles.

The tree-covered mountains of the Black Forest were first built up, using different sized boxes for the mountains and covering them with moss. The trees were made of sponges attached to twigs, and of bottle washers, both colored with green dye. Then the village was constructed. This consisted of a church, a flour mill that would run, and houses of the type that prevail in the Black Forest. These were made of cardboard, built with the stable on the ground floor and the living quarters above. The houses had overhanging roofs, windows which swung out, and staircases on the outside. The houses were colored with crayola. The mill with the wheel that worked was brought in by one of the boys who had experimented until he had accomplished his object.

The clothing of the people was made real through dressing dolls in appropriate costumes. These were especially significant. Some dolls that were made in Germany were given to the class. Others were brought from the homes. The larger dolls were dressed in native costume, while baby dolls were dressed as real German babies. Some of the dolls, at the insistance of the children, were dressed as Wandervogel, those German city-dwellers who like to spend a day walking and picnicing in their beloved Black Forest. The children enjoyed making these hiking costumes.

A wool poster.—In connection with a study of sheep raising in Australia, a wool poster was organized by the class. This unit took raw wool through the various processes until it was made into different useful articles. These processes were represented either by pictures or a portion of the article.

A unit on China.—The pupils in a class studying China became so interested in this country and its people that, almost without exception, each pupil did much independent reading and investigation, both in school and as leisure time projects. For example, the pupils in the class gradually chose Chinese subjects for free period activities. They read material about China, made drawings and pictures illustrating the scenery and the activities of the people, illustrated stories that they read, and constructed Chinese kites, balloons, and water wheels. In short, through the exercise of their own interests, the class became saturated with interesting details of Chinese history, customs, and traditions.

Out of all this, the desire to write a play relating to China grew. After considerable discussion, the class decided to call their play The Chinese Toy Shop. They decided that they would divide the play into two acts; that the first act should include an arithmetic lesson, a song, a dance, some stories, and a riddle; that the second act should center around a discussion of Chinese toys, their purchase and their use; that Chinese names should be chosen for the actors and actresses; that the pupils in the class would themselves make the toys, costumes, and other materials needed for the play; that they would have an exhibit in connection with the giving of the play; that every part of the play should be typical and authentically Chinese in character.

A wealth of printed and illustrative material was collected and many toys made. The following partial lists will give some idea of the extensiveness of these phases of the work.

Material for exhibit:

Chinese newspaper; Chinese almanac; Chinese popular magazine; satin wall hanging on which a golden saying of Confucius is written in the Chinese characters; posters purchased from New York City's Chinatown; scores of pictures depicting Chinese food, clothes, customs, industries, transportation, temples, and natural scenery; table runner rich in Chinese embroidery; woven silk mat depicting the temple of Confucius.

Toys made:

Pagodas; bells; house boats; junks; fans; water wheels; jinrikishas; dragons; lanterns; kites; bird cages; carts; shoes; parrots; candied apples on sticks; wheel barrows; parasols; people-women; people-children; houses; flowers-narcissus; lotus; beggar; boats; chairs; carpets; arches; couches horns; tables; benches.

Preparation of portfolios to send to children in other countries.—Many schools have sent portfolios to children in the schools of other nations. The Junior Red Cross has been vitally interested in projects of this kind and has encouraged schools all over the world to become acquainted with the children in schools of other lands. The material described below was sent to a school in Japan.

1. Our school: pictures of school, pupils, teacher, and principal; map of school ground and classroom; written material on organization and administration of school; description of interior of building; subjects taught.

2. Game book: Pictures illustrating games played by pupils in the class, some drawn by children, others cut from magazines; explanations of games.

3. Holiday book: Pictures illustrating various American holidays; stories telling origin of holiday and the manner of celebration.

4. Costume book: Pictures of postman, policeman, boy, girl, Camp Fire

Girl, Boy Scout, and other costumes or uniforms typical of American life; short description of each costume.

5. Book of homes: Pictures of exteriors; pictures of interiors showing types of furniture used; brief description of furnishings and explanation of uses of such furnishings as are probably foreign to the experiences of Japanese children.

Another class working on a similar unit organized material respecting Pennsylvania around the following topics:

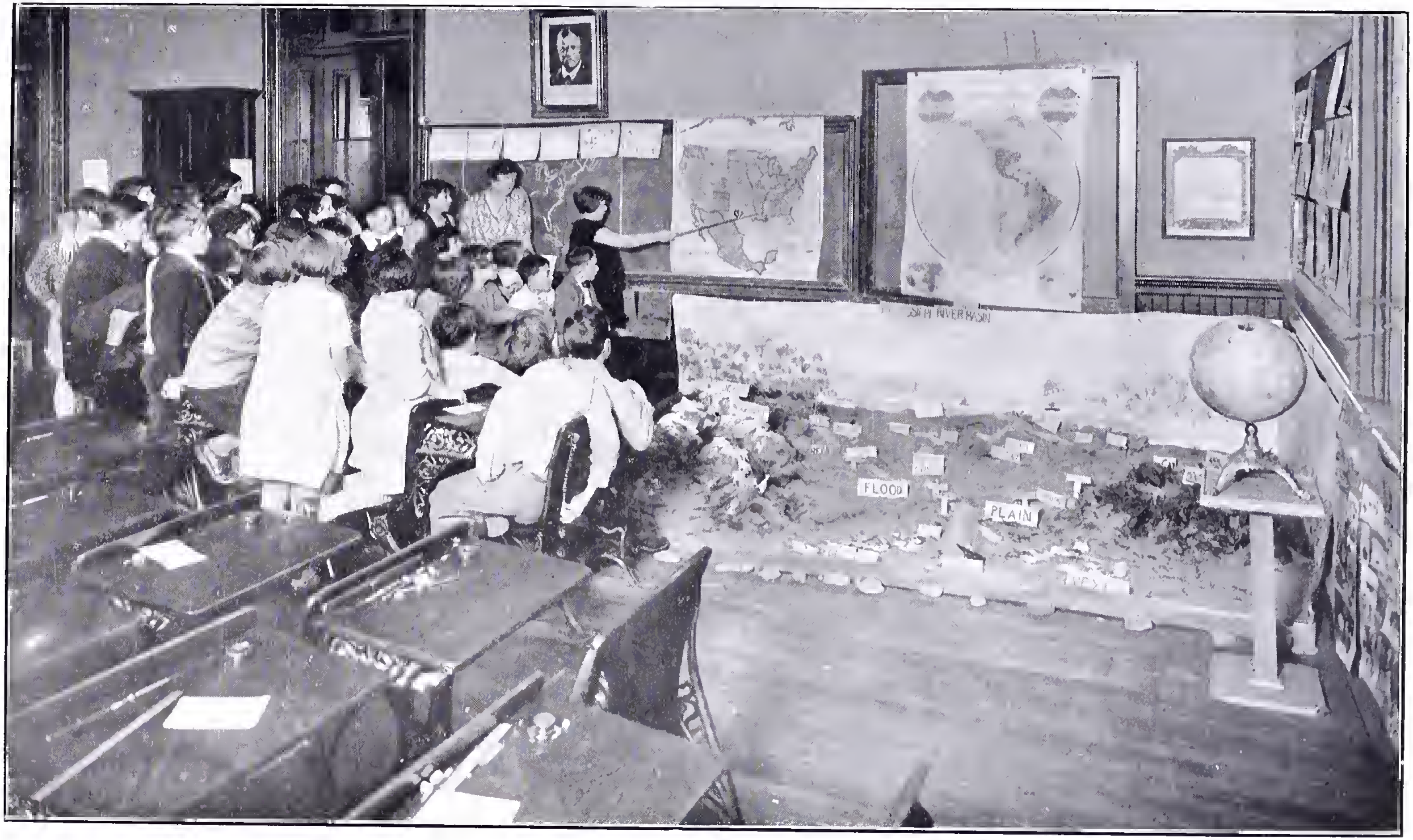
1. History.
2. Interesting facts: Nickname (why it received this name); state flag; population; area; state motto.
3. Forests as a source of wealth.
4. Soil as a source of wealth.
5. Rivers.
6. Minerals.
7. Industries.
8. Wealth of Pennsylvania.
9. Cities of Pennsylvania: Pittsburgh; Harrisburg; Philadelphia.
10. Things in which Pennsylvania ranks first.

Another class carrying out a similar project emphasized the school and community. Several pupils brought cameras to school and took pictures of the school, groups at play, the school bus, and familiar scenes in the community. In the language class letters were written describing the scenes that pupils had taken with their cameras. The best letters were chosen and the pupils writing the neatest and plainest were selected to copy them for the booklet. Leading industries in the community were illustrated with pictures cut from magazines, old textbooks, and scenes brought from home. Farming, mining, and manufacturing were emphasized. Booklets obtained from industries in the neighborhood were especially helpful. Every member in the class took some part of this project.

Topics considered include our greenhouse; our park; the new highway; our clothes; our community house; the history of our community.

Building the Mississippi River Basin.—The pupils in a class about to study the Mississippi River Basin were full of questions. Finally they decided to build the Mississippi Basin on the floor of their classroom.

The pupils, who already had considerable practice in the organization and development of various kinds of group activities, were prolific with suggestions. For example, they thought that they ought to



BRINGING THE MISSISSIPPI RIVER BASIN INTO THE SCHOOLROOM learn all they could about the Mississippi River Basin before going any further; that when they knew more about it, they would be able to plan to better advantage. Accordingly, they decided to study the matter from as many sources as possible: their own geography text; the texts of the higher grades; the dictionary and the encyclopedia; maps and globes; books that tell about the subject, from their homes and the library; newspapers and magazines. They also decided to ask questions of people who had been in the Mississippi Basin.

When the class met again, the answers to several of their original questions had been found. For example, they knew the meaning of the term, Mississippi River Basin. However, with additional knowledge, new questions had arisen, and further planning seemed necessary. Each pupil was anxious to work out the complete activity. This was soon recognized as impractical. Accordingly, the following committees were organized:

1. Foundation committee, to measure the floor space available for this project, so as to estimate proportion to be used for the various mountain ranges, tributaries, and other important areas. To cover the floor space to be used, first with blue paper so as to have a foundation for rivers and lakes, and then with a layer of soil.
2. Rocky Mountain committee, to construct the Rocky Mountains.
3. Appalachian Mountain committee, to construct the Appalachians.
4. The Great Lakes committee, to construct the Great Lakes.
5. The rivers committee, divided into three sub-committees for the construction of the Mississippi, the Missouri, and the Ohio.
6. The grazing committee, to indicate the grazing lands.
7. The dairying committee, to indicate the dairying sections.
8. The products committee, to list and indicate the location of the most important products of the basin. In addition to the special committee having charge of this piece of work, each child in the class was appointed as a committee of one to study the matter independently and to report his findings to the group as a whole.
9. The printing committee, to see that appropriate signs were made and placed in position so that the completed piece of work might be easily interpreted by an observer.
10. The frieze or background committee, to paint and hang an appropriate frieze for the walls against which the area was built.

Each committee presented its ideas, findings, plans and exhibits, to the group as a whole for discussion, appraisal, and approval, before making final use of them in the floor project. This meant much reorganization by individuals, committees, and the class as a whole. It was found, too, that modifications in the original plan were necessary. For example, the products committee found that their material exceeded the opportunities for display that the space offered. They, therefore, organized a large part of their material as a separate products exhibit.

It was also decided that each pupil should save his written material, bind all together at the close of the study, and add whatever other material he wished, so as to make an attractive booklet. In short, before completed, this activity extended into every subject of study.

Free material.—The list of free materials given below were prepared by two teachers of geography with the assistance of the pupils in their classes. In writing for free material but one letter should be sent. If this letter is written by one of the pupils, the teacher's approval and name should be added. A considerable number of firms have withdrawn their offer of free material because they found it impossible to provide the amount of material requested and because they felt that many of the requests were unreasonable. Frequently, each pupil in a class wrote a letter requesting material that was expensive, where one set for a room would answer every purpose.

All of this material was obtained while these lists were being prepared. Teachers and pupils should constantly eliminate and add to this list as they secure information from magazines and other sources which indicate the withdrawal of old sources for obtaining free materials and the addition of new ones.

Alaska: Alaska Department, Chamber of Commerce, Seattle, Washington.
Aluminum: Aluminum Cooking Utensil Company, New Kensington, Pennsylvania.
Asbestos: Johns-Manville Company, Chicago, Illinois.
Asbestos: Keasley and Mattison, Ambler, Pennsylvania.

Bananas: The United Fruit Company, 17 Battery Place, New York.
Bananas: United Fruit Company, Boston, Massachusetts.
Bran: Kellogg Company, Battle Creek, Michigan.
Brick: American Face Brick Association, 130 North Wells Street, Chicago, Illinois.

California: California Chamber of Commerce, Sacramento, California.
California to New York: Panama Mail Steamship Company, 2 Pine Street, San Francisco, California.
Canada: Commissioner of Immigration, Winnipeg, Canada.
Canada: Natural Resources and Commerce; The Unexploited West, a compilation of authentic information available at the present time as to the natural resources of the unexploited regions of Northern Canada; F. C. C. Lynch, Superintendent Railway Lands Branch, Department of Interior, Ottawa, Canada.
Canada: The Royal Bank of Canada, Montreal, Canada.
Cape Town to Cairo: Publicity Manager, South African Railroad, Bowling Green Building, 11 Broadway, New York City.
Cement: Atlas Portland Cement Company, New York City.

Chicago: Chicago Elevated Roads, 72 West Adams Street, Chicago, Illinois.

Chocolate: Franklin Baker Company, 15th and Bloomfield Streets, Hoboken, New Jersey.

Chocolate: Hershey Chocolate Company, Hershey, Pennsylvania.

Citrus fruits: Citrus Protective League of California, 740 Consolidated Realty Building, Los Angeles, California.

Coffee: Cheek-Neal Coffee Company, Richmond, Virginia.

Coffee: Hills Brothers, San Francisco, California.

Coffee: McCormick and Company, Baltimore, Maryland.

Commerce: National City Bank, 55 Wall Street, New York City.

Cork: Armstrong Cork Company, Pittsburgh, Pennsylvania.

Corn: American Manufacturers' Association of Products from Corn, 208 La Salle Street, Chicago, Illinois.

Corn Products: samples; Corn Products Refining Company, New York City.

Cotton: Pacific Mills, Lawrence, Massachusetts.

Cotton-seed oil: samples of cotton products; Southern Cotton Oil Trading Company, New Orleans, Louisiana.

Flour: chart exhibit; Washburn-Crosby Company, Minneapolis, Minnesota.

Fountain pen: L. E. Waterman Company, 191 Broadway, New York City.

Georgia: Georgia Railway and Power Company, Atlanta, Georgia.

Gettysburg: Philadelphia and Reading Railroad, Terminal Building, Philadelphia, Pennsylvania.

Glass: Pittsburgh Plate Glass Company, Pittsburgh, Pennsylvania.

Great Lakes-St. Lawrence Waterway: Great Lakes-St. Lawrence Tidewater Association, Duluth, Minnesota.

Halifax, Nova Scotia; St. Johns, Newfoundland: Red Cross Line, New York City.

Hat manufacture: Educational Committee of Chamber of Commerce, Philadelphia, Pennsylvania.

Hawaii: Los Angeles Steamship Company, Los Angeles, California.

Hawaii: Matson Navigation Company, 215 Market Street, San Francisco, California.

Hudson River: Hudson River Day Lines, Desbrosses Street Pier, New York City.

Imports: National Foreign Trade Council, India House, Hanover Square, New York City.

Island possessions of the United States: The American Chamber of Commerce, Calle Pinpin, Manila, P. I.

Japan, China and Far East: The N. Y. K. Line, 551 Market Street, San Francisco, California.

Lace: Marshall Field and Company, Chicago, Illinois.

Locomotives: Baldwin Locomotive Works, Philadelphia, Pennsylvania.

Manila: Tubbs Cordage Company, San Francisco, California.

Marble: Georgia Marble Company, Tate, Georgia.

Meat: Swift and Company, Union Stock Yards, Chicago, Illinois.

Middle Atlantic Coast: Old Dominion Line, New York City.

National Monuments; National Parks: Director of National Park Service, Interior Department, Washington, D. C.

New England Coast: Eastern Steamship Lines, Pier 25 N. R., New York City.

New Orleans: New Orleans Association of Commerce, New Orleans, Louisiana.

New York City: New York Chamber of Commerce, 65 Liberty Street, New York City.

New York, New Orleans, and South American Ports: United Fruit Company, Boston, Massachusetts.

New York, Boston and British ports: White Star Line, New York City.

Niagara Falls: The Niagara Falls Power Company, Niagara Falls, New York.

North Carolina: Department of Conservation and Development, Raleigh, North Carolina.

Panama Canal: Director of the Panama Canal, Washington, D. C.

Paper; exhibits: Strathmore Paper Company, Mettineague, Massachusetts.

Peanut products: Beech-nut Packing Company, Canajoharie, New York.

Pennsylvania Railroad: Pennsylvania Railroad, Broad Street Station, Philadelphia, Pennsylvania.

Petrified forests: W. J. Black, Passenger Traffic Manager, Santa Fe, New Mexico.

Philadelphia: Philadelphia Chamber of Commerce, Philadelphia, Pennsylvania.

Philadelphia: Royal Blue Line Company, Hotel Bellevue Stratford, Philadelphia, Pennsylvania.

Pineapples: Hawaiian Pineapple Company, San Francisco, California.

Pittsburgh: Pittsburgh Chamber of Commerce, Pittsburgh, Pennsylvania.

Quebec: F. R. Perry, Madison Avenue at 44th Street, New York City.

Rhine River: **Wilkins and Biehl, Houston, Texas.**

Rubber; chart: Goodrich Rubber Company, Akron, Ohio.

Rubber: U. S. Rubber Company, 1700 Broadway, New York City.

Salt: Diamond Crystal Salt Company, St. Clair, Michigan.

Seattle and the Orient: Admiral Oriental Line, 1319 Railroad Avenue, Washington.

Shoes; how they are made: United Shoe Machinery Corporation, Boston, Massachusetts.

Silk: Committee on Education, Chamber of Commerce, Paterson, New Jersey.

Silk: The Silk Association of America, 468 Fourth Avenue, New York City.

Slides and Films: Much free material. Address Director of Visual Education, Department of Public Instruction, Harrisburg, for lists of such materials in English, geography, health, history, and science.

Soap: Proctor and Gamble, Department 20 P., Cincinnati, Ohio.

Steel-making: Tennessee Coal, Iron and Railroad Company, Birmingham, Alabama.

Steel: U. S. Steel Corporation, Bureau of Safety, Sanitation and Welfare, 71 Broadway, New York City.

Sugar: American Sugar Refining Company, Chicago, Illinois.

Sugar: California and Hawaiian Sugar Refining Corporation, 215 Market Street, San Francisco, California.

Sugar in Hawaii: Hawaiian Sugar Planters Association, Honolulu.

Sugar: Imperial Sugar Company, Sugarland, Texas.

Trees: Edward Hines Company, 1346 South La Salle Street, Chicago, Illinois.

Valley Forge: Philadelphia and Reading Railroad Terminal Building, Philadelphia, Pennsylvania.

Weather: U. S. Weather Bureau, Washington, D. C.

Wheat: Washburn-Crosby Company, Minneapolis, Minnesota.

Wool: manufactured into cloth; American Woolen Company, Boston, Massachusetts.

World Tours: American Express Company, New York City.

World Trips: Dollar Steamship Company, San Francisco, California.

Yellowstone National Park; Glacier National Park: Burlington Route, 357 Fifth Avenue, Pittsburgh, Pennsylvania.